Fugro Survey B.V.

Geophysical Site Investigation Survey
Dutch Continental Shelf, North Sea

Hollandse Kust (zuid) Wind Farm Development Zone
Operations & Calibrations

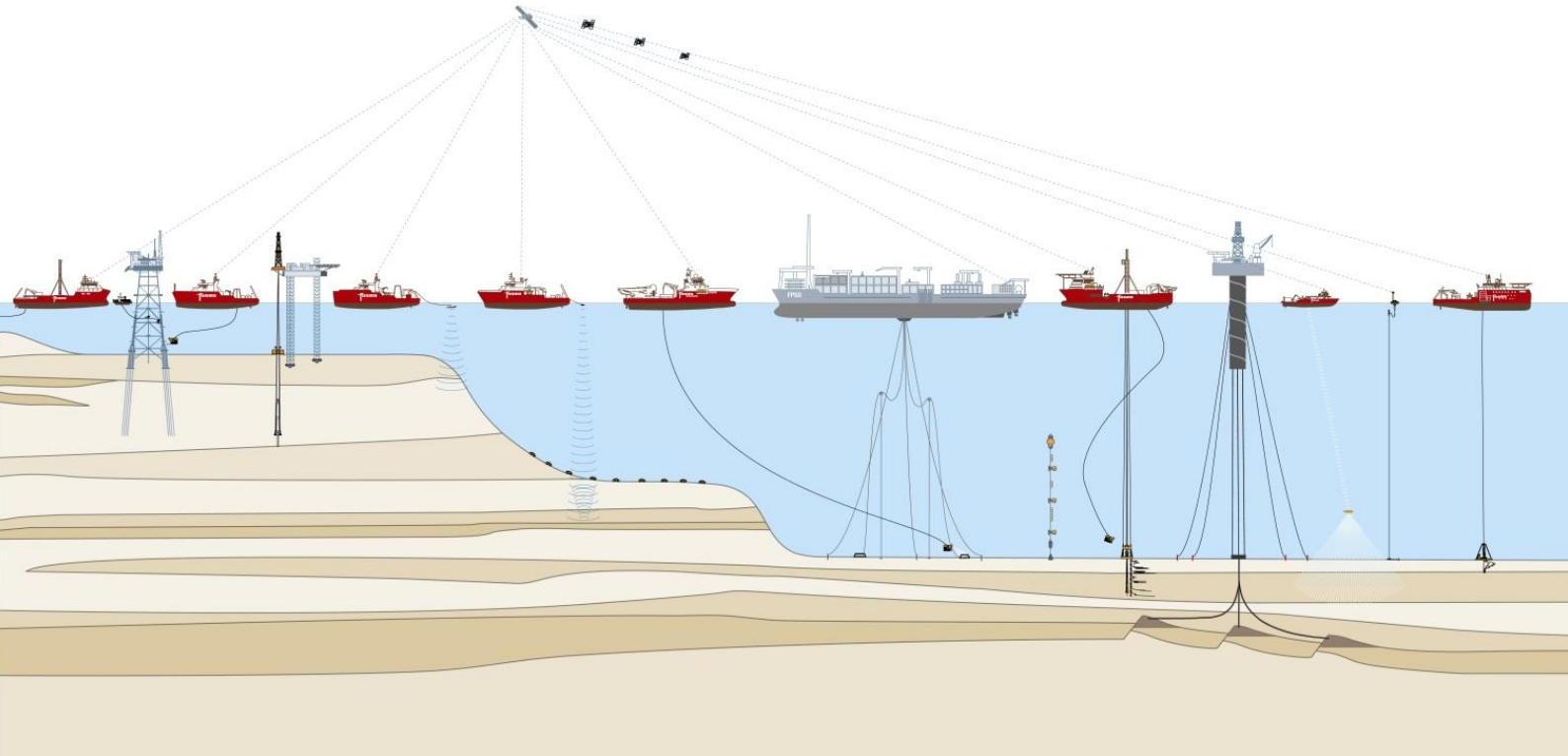
7 March to 18 April 2016

Fugro (FSBV) Report No.: GH176-R5

Rijksdienst voor Ondernemend Nederland

Netherlands Enterprise Agency

Revision B



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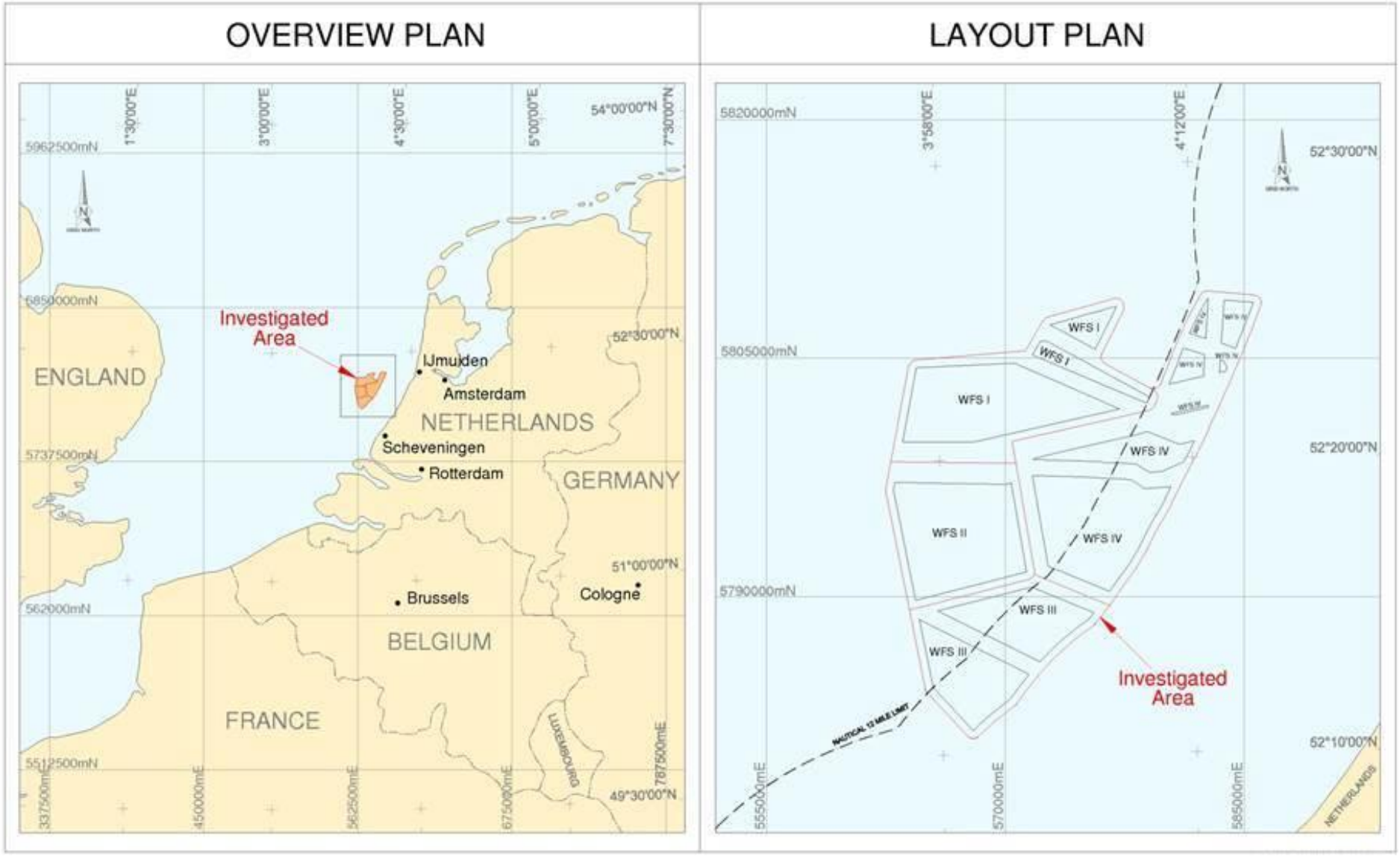
OVERVIEW PLAN
LAYOUT PLAN
Investigated Area
ENGLAND
NETHERLANDS
GERMANY
BELGIUM
FRANCE
IJmuiden
Amsterdam
Scheveningen
Rotterdam
Brussels
Cologne
WFS I
WFS II
WFS III
WFS IV
Investigated Area

KEYPLAN

DOCUMENT ARRANGEMENT

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REPORT 2: SURVEY RESULTS: WIND FARM SITE II
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ABBREVIATIONS

2DUHR	2D Ultra High Resolution
APOS	Acoustic Positioning Operator Station
BH	Borehole
bLAT	below Lowest Astronomical Tide
bsb	Below seabed
CHIRP	Compressed High Intensity Radar Pulse
COG	Centre of Gravity
CPT	Cone Penetration Test
CRP	Common Reference Point
CTD	Conductivity Temperature Depth (probe)
C-O	Computed minus observed
C/W	Comes with
DGPS	Differential Global Positioning System
DMS	Dynamic Motion Sensor
DTU13	Danish Technical University 2013
EGM96	Earth Gravitational Model 1996
ETRS89	European Terrestrial Reference System 1989
Fm	Formation
FOSPA	Fugro Oceansismica S.p.A.
FSBV	Fugro Survey B.V.
GLONASS	Global Navigation Satellite System (Russia)
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
HiPAP	High Precision Acoustic Positioning system
HMP	Hull-mounted pinger
HSE	Health, Safety and Environment
LAT	Lowest Astronomical Tide
MAG	Magnetometer
MBES	Multibeam echo sounder
MCS	Multichannel seismic
MRU	Motion Reference Unit
MSS	Mean Sea Surface
MV	Motor Vessel
NLHO	Netherlands Hydrographic Office
PDOP	Position Dilution of Precision
QC	Quality Control
RVO	Rijksdienst voor Ondernemend Nederland
Rx	Receiving transducer
SBES	Single beam echo sounder
SBP	Sub-bottom profiler
SCS	Single channel seismic (sparker)
SIS	Seafloor Information System
SPK	Sparker
SSS	Sidescan sonar

SVP	Sound velocity profile
TP	Tow point
THU	Total Horizontal Uncertainty
TPU	Total Propagated Uncertainty
TVU	Total Vertical Uncertainty
TWT	Two way travel (time)
Tx	Transmitting transducer
UHR	Ultra High Resolution
UHRS	Ultra High Resolution Seismic
UKOOA	United Kingdom Offshore Operators Association
USBL	Ultra Short Baseline
UTC	Coordinated Universal Time
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance
VC	Vibrocore
WFS	Wind Farm Site
WFZ	Wind Farm Zone
WGS84	World Geodetic System 1984

1. INTRODUCTION AND SCOPE OF WORK

1.1 General

Rijksdienst voor Ondernemend Nederland (RVO) contracted Fugro Survey B.V. (FSBV) to perform a geophysical investigation to improve the bathymetrical, morphological and geological understanding of Wind Farm Sites (WFS) I, II, III & IV of the Hollandse Kust (zuid) Wind Farm Zone (WFZ). This included the exclusion zones around pipelines and cables crossing the WFZ, which defined the boundaries of the four WFS.

MV Fugro Pioneer and MV Victor Hensen were used as survey vessels and Scheveningen was the port of mobilisation.

The survey was conducted between 7 March 2016 and 18 April 2016.

All geographical and projection coordinates in the report and on the charts are, unless otherwise specified, based on the local datum European Terrestrial Reference System 1989 (ETRS89). Projection coordinates are in Universal Transverse Mercator (UTM) grid, Zone 31, Northern Hemisphere. The vertical datum is Lowest Astronomical Tide (LAT). The time standard is UTC + 1 hour, which changed to UTC + 2 hours on Sunday 27 March 2016 in accordance with daylight saving time.

The investigation provided bathymetric, seabed features and shallow geology data of Hollandse Kust (zuid) Wind Farm Zone using sidescan sonar (SSS), multi- and single beam echo sounder (MBES/SBES), sub-bottom profiler (SBP) and ultra high resolution seismic (UHRS). A magnetometer was also towed during all SSS operations. The recorded data was processed and interpreted to locate natural objects such as boulders and non-natural objects such as wrecks, debris, existing cables, pipelines and unexploded ordnance (UXO). In addition, the seismic data was interpreted to determine shallow geology structure and any geohazards.

The data will be used to provide input into the specification and scope for a geotechnical sampling and testing programme and to assist design of the offshore foundations / structures and cable burial.

Rijksdienst voor Ondernemend Nederland (RVO) provided background information about the existing and planned offshore foundations/structures pipelines and cables.

1.2 Purpose of Work

The general survey objectives for each site were:

- To obtain an accurate bathymetric chart of WFS I, II, III & IV;
- To give information on the presence of all seabed features including: any natural objects such as boulders; any non-natural objects such as wrecks, debris or UXO (both known and previously unmapped);
- To produce isopach charts showing the thickness of the main geological formations including any mobile sediments and any other significant reflectors which could potentially impact engineering design;

- To locate any structural complexities or geohazards within the shallow geological succession such as faulting, accumulations of shallow gas, buried channels etc;
- To provide detailed geological interpretation showing facies variations and structural feature changes via appropriate charts and sections;
- To list the exact position of existing (active and inactive) cables and pipelines;
- To provide proposed positions for a geotechnical sampling and testing programme following the completion of the geophysical survey;
- To prepare a comprehensive interpretative report on the survey results in order to assist design of the offshore foundations / structures and cable burial.

1.3 Site Description

The proposed WFS are located in the Hollandse Kust (zuid) Wind Farm Zone. The coordinates of the corners of the Hollandse Kust (zuid) Wind Farm Zone are presented in Table 1.1.

The WFS are shown in Figure 1.1 and are separated by exclusion zones around existing pipelines and cables.

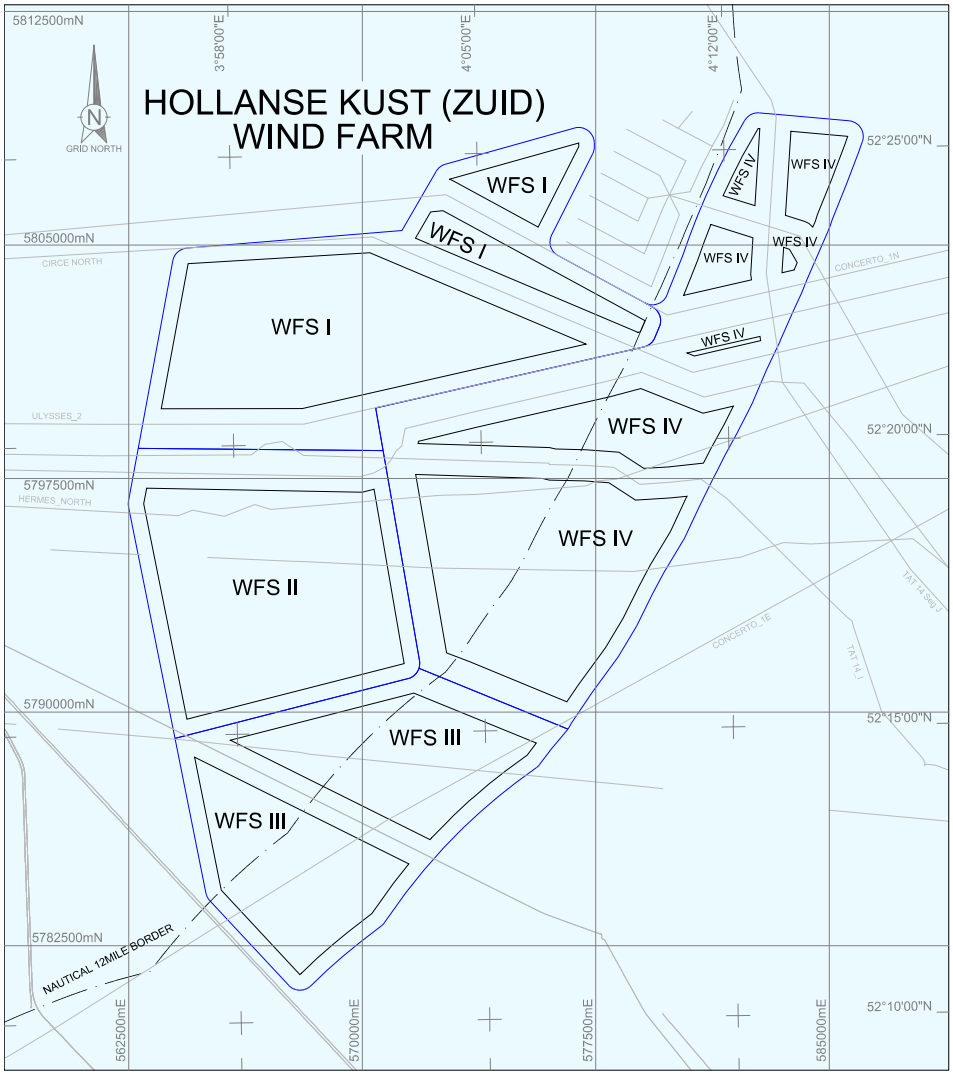


Figure 1.1: The Hollandse Kust (zuid) WFZ and the designated WFS

Table 1.1: Coordinates of the Hollandse Kust (zuid) WFZ

Easting [m]	Northing [m]
585514	5806860
585014	5805580
584119	5803480
582980	5800980
582539	5799950
581233	5797430
580344	5795580
579683	5794470
578820	5792780
578219	5791780
577368	5790610
576591	5789440
575671	5788290
574374	5787290
573777	5786780
572594	5785620
571973	5784920
571398	5784200
570659	5783180
569370	5782150
568276	5781150
568140	5781090
568002	5781070
567845	5781090
567711	5781160
565101	5783940
564996	5784120
562489	5796610
562491	5796780
563912	5804490
563996	5804690
564157	5804830
564343	5804890
571275	5805470
572381	5807380
572562	5807550
576814	5808760
577009	5808770
577212	5808700
577376	5808530
577446	5808330

Easting [m]	Northing [m]
577439	5808040
576080	5805320
576028	5805110
576060	5804920
576138	5804780
576271	5804670
579082	5803140
579284	5803080
579476	5803100
579645	5803200
579765	5803350
580748	5805890
581156	5806840
581773	5808100
582286	5809010
582441	5809160
582601	5809230
582756	5809240
585653	5808980
585884	5808890
585981	5808800
586057	5808660
586081	5808400
585514	5806860

1.4 Survey Program

For all lines the SBES, MBES, SSS, SBP and magnetometer were used simultaneously with a line spacing of 100 m. Multichannel seismic survey UHR data were acquired with a line spacing of 300 m. The cross lines were planned with a line spacing of 750 m. Refer to Figure 1.2 for the sailed tracks of MV Fugro Pioneer and MV Victor Hensen. The line name convention is presented in Figure 1.3.

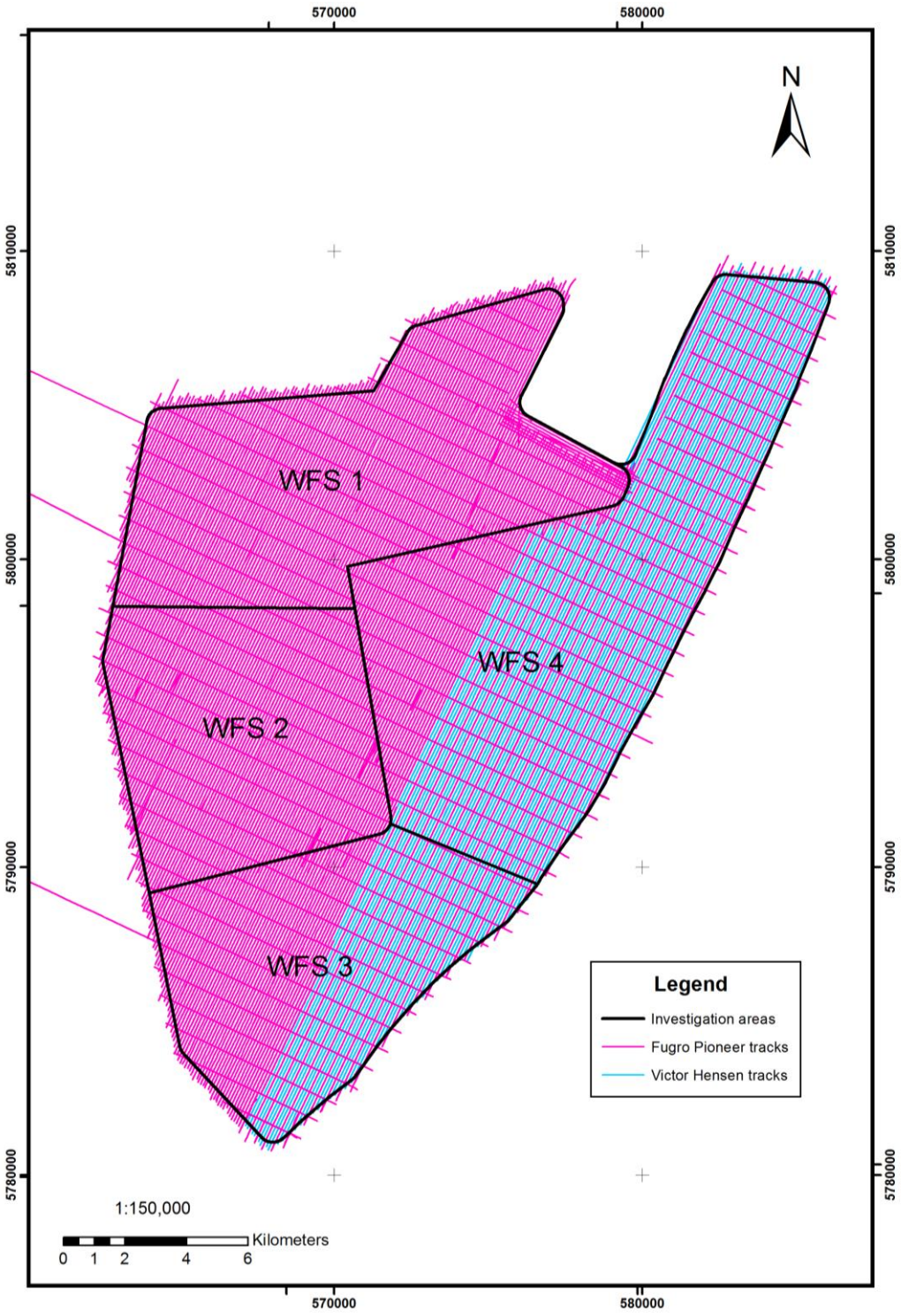


Figure 1.2: Vessel tracks of MV Fugro Pioneer and MV Victor Hensen

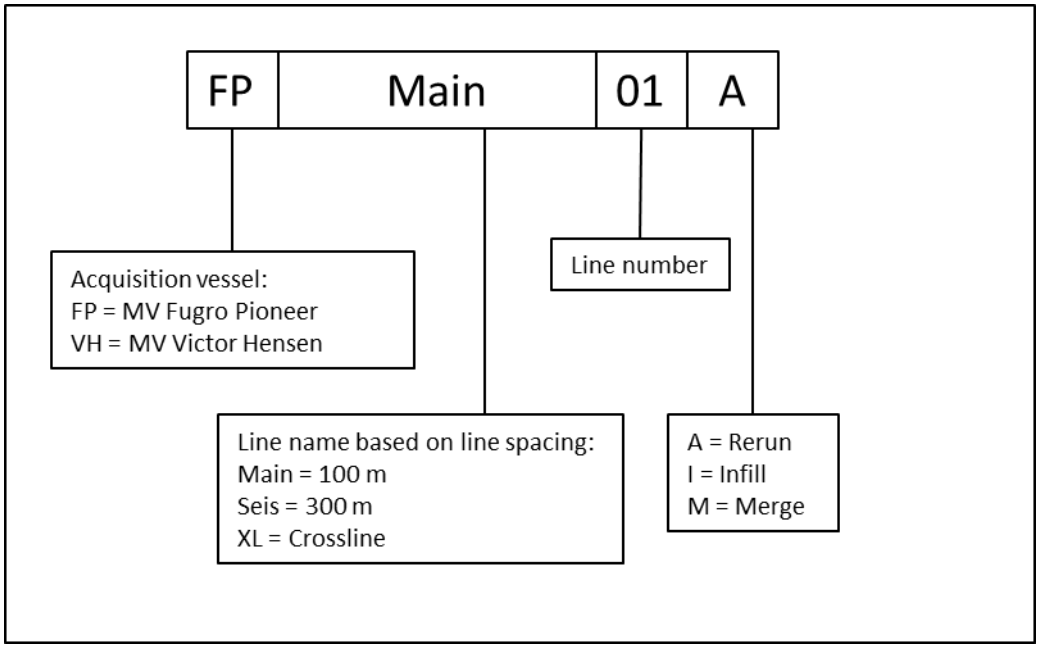


Figure 1.3: Line name convention

1.5 Geodetic Parameters

All geographical and projection coordinates in the report and on the charts are, unless otherwise specified, based on local datum European Terrestrial Reference System 1980 (ETRS89). Projection coordinates are in Universal Transverse Mercator (UTM) grid, Zone 31, Northern Hemisphere. The vertical datum is Lowest Astronomical Tide (LAT). The time zone is UTC + 1 hour, which changed to UTC + 2 hours on Sunday 27 March 2016 in accordance with daylight saving time.

Satellite navigation and positioning operating in differential mode was used. DGPS geographical coordinates were based on datum World Geodetic System 1984 (WGS84). The UKOOA datum shift parameters were used for the transformation from WGS84 to local coordinates in the ETRS89 datum. The geodetic parameters are detailed in Table 1.2.

Table 1.2: Project Geodetic and Projection Parameters

Global Positioning System Geodetic Parameters[1]								
Datum:	WGS84							
Spheroid:	WGS84							
Semi major axis:	a = 6 378 137.000 m							
Inverse Flattening:	$^1/_f$ = 298.257 223 563							
Local Datum Geodetic Parameters [2]								
Datum:	European Terrestrial Reference System 1989 (ETRS89)							
Spheroid:	GRS80							
Semi major axis:	A = 6 378 137.000 m							
Inverse Flattening:	1/f = 298.257 222 101							
Datum Transformation Parameters [3] from WGS84 to ETRS89 for epoch 2016.210382514 (18 March 2016)								
Shift dX:	+0.05372	m	Rotation rX:	-0.002204	arcsec	Scale Factor:	0.002637	ppm
Shift dY:	+0.05092	m	Rotation rY:	-0.013333	arcsec			
Shift dZ:	-0.08768	m	Rotation rZ:	+0.021551	arcsec			
Project Projection Parameters								
Grid Projection:	Universal Transverse Mercator							
UTM Zone	UTM zone 31N							
Central Meridian:	003º 00’ 00.000” East							
Latitude of Origin:	00º 00’ 00.000” North							
False Easting:	500 000 m							
False Northing:	0 m							
Scale factor on Central Meridian:	0.9996							
Units:	Metre							

Notes:
1.Fugro Starfix navigation software always uses WGS84 datum as a primary datum for any geodetic calculations;
2. Source: Client;
3. This is the Bursa-Wolfe rotation convention as opposed to the coordinate frame rotation used in Starfix software.

2. OPERATIONS

FSBV provided the necessary personnel, equipment and vessels to carry out the survey. This section provides information regarding the equipment used and personnel employed to obtain the results presented in the accompanying volumes of this report. MV Fugro Pioneer was used as the survey vessel for the geophysical survey of WFS I and II as well as all UHR seismic work. MV Victor Hensen conducted the geophysical survey for WFS III and IV.

On the 20 March 2016, MV Victor Hensen followed MV Fugro Pioneer on line FPMain55 to conduct a bathymetry data comparison between the two vessels. Both vessels performed an absolute depth check at the Maeslandkering, The Netherlands.

2.1 Operations Summary

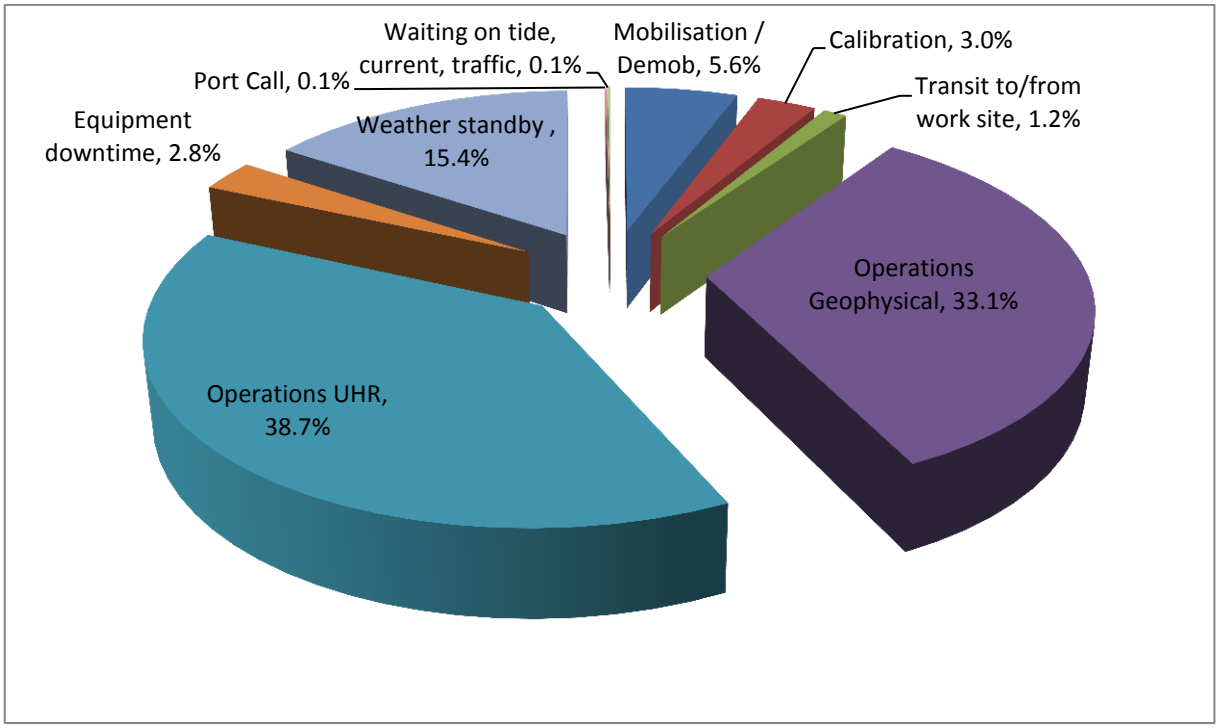
The vessel MV Fugro Pioneer was used by Fugro Survey B.V. between 7 March 2016 and 18 April 2016 to perform the geophysical survey for the Hollandse Kust (zuid) Wind Farm Zone. MV Victor Hensen joined the survey area on 17 March 2016 and conducted survey operations until 5 April 2016.

Refer to Table 2.1, Table 2.2 and Figure 2.1, Figure 2.2 for more details.

Mobilisation of MV Fugro Pioneer started on 7 March 2016. The following day a project kick-off meeting took place onboard the vessel. The vessel was alongside for calibrations including testing the UHRS sparker and streamer systems until it sailed on 10 March 2016. The survey started with the non-seismic lines (FPMain_xxx) to allow for simultaneous sea trails of the UHRS system. The first lines that included seismic acquisition (FPSeis_xxx) were surveyed on 15 March 2016. The vessel was on weather standby from midday of 26 March until survey recommenced on 30 March 2016. A crew change took place in a poor weather window on 7 April 2016, after which the survey recommenced. The survey was completed on 18 April 2016.

Table 2.1: Operational Statistics for MV Fugro Pioneer

Activity	Decimal Hours	Percentage
Mobilisation/demobilisation	57.00	5.6
Calibration	29.83	3.0
Transit to/from work site	5.00	1.2
Operations Geophysical	334.98	33.1
Operations UHR seismic	390.92	38.7
Equipment downtime	28.15	2.8
Weather standby	155.35	15.4
Port Call	0.92	0.1
Waiting on tide, current, traffic	1.43	0.1
TOTAL	**1010.66**	**100.0**



Values expressed in percentages

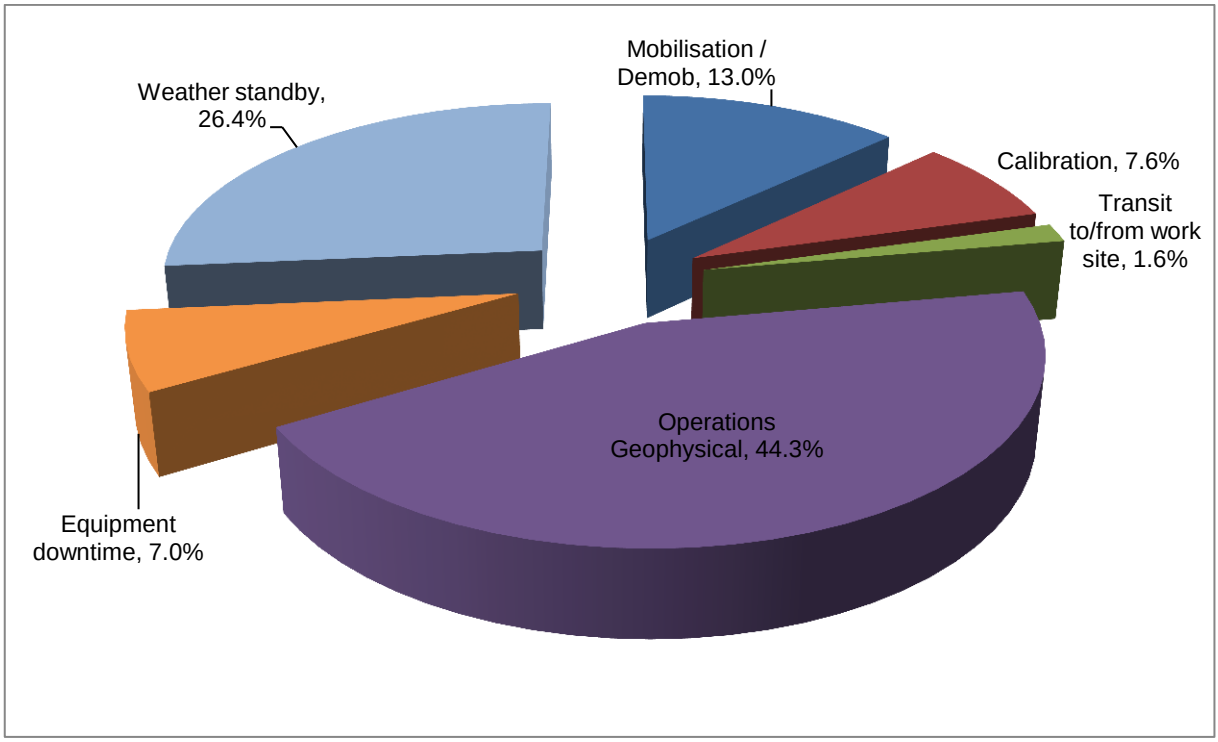
Figure 2.1: Operational statistics graph (MV Fugro Pioneer)

After completing mobilisation, on 20 March 2016 MV Victor Hensen started to survey the most northern lines (VHMainNorth_xxx) of the survey area. During the acquisition of these lines the sidescan sonar experienced frequent connectivity problems. In agreement between the survey Party Chief and the onboard Client Representative it was decided to return to port to re-terminate the SSS tow connection.

Weather conditions prohibited survey operations between 28 March 2016 and 30 March 2016. Survey operations were completed on 03 April 2016.

Table 2.2: Operational Statistics for MV Victor Hensen

Activity	Decimal hours	Percentage
Mobilisation / demobilisation	58.00	13.0
Calibration	33.98	7.6
Transit to/from work site	7.28	1.6
Operations Geophysical	197.67	44.3
Equipment downtime	31.07	7
Weather standby	117.83	26.4
TOTAL	**445.83**	**100.0**



Values expressed in percentages

Figure 2.2: Operational statistics graph (MV Victor Hensen)

2.2 Summary of Resources

Table 2.3: Equipment onboard MV Fugro Pioneer

Equipment onboard MV Fugro Pioneer	
Positioning and Navigation	6 x StarPack unit (c/w cables and antenna)
	1 x Access to Starfix L1, L2, Dif, HP, G2 corrections
	4 x Online survey computer
	4 x StarPort
	1 x StarPulse active 1PPS distributor
	1 x iXBlue HydrINS fibre optic gyro
	1 x Meridian gyrocompass
	1 x iXBlue Octans 3000
	1 x Teledyne TSS DMS-25 motion sensor
	3 x Additional monitors as helmsman display
	1 x Adams ADAM draught reader and ambient pressure sensor
	1 x Leica TS15 total station with tripod and prisms
Geophysical Equipment	1 x Kongsberg EA400 SBES (dual frequency transducer, 33 kHz and 210 kHz, hull-mounted)
	1 x EA400 operating station
	2 x SD204 probe with wireless controller
	2 x Valeport miniSVS
	2 x EdgeTech 4200-FS digital SSS
	2 x EdgeTech 701-DL topside unit
	1 x Sidescan sonar acquisition computer
	2 x SSS Tow winch (c/w cable and cable counter)
	3 x Geometrics G-882 magnetometer
	2 x STR digital transceiver
	1 x Massa TR-1075 pinger 4 x 4 + 2 array (hull mounted)
	1 x Kongsberg EM 2040 dual head MBES
	1 x Sub-bottom profiler acquisition computer
	2 x GLog IV A/D converter
	2 x Valeport MiniSVP velocity probe
	1 x Kongsberg HiPAP 501 cymbal USBL system
	1 x Kongsberg APOS system
	7 x 5 x Applied Acoustics 1019 USBL beacon
	4 x 1 x Kongsberg Mini 34 transponder
	2 x Kongsberg Maxi transponder
	2 x Kemo Benchmaster 8 bandpass filter
	1 x Applied Acoustics CSP-N 2400 J power supply unit
	2 x Geo-Resources Geo-Spark 1000 J power supply unit
	1 x GSO 540 dual-frequency sparker (180+360 tips)
	1 x GSO 100-tip sparker
	1 x 48 channel Geometrics GeoEel solid streamer
	2 x 8 element mini-streamer (1 x Geo-Resources and 1 x Applied Acoustics)
	1 x T249 reference hydrophone
	1 x Geometrics CNT-2 Marine Controller
	1 x Digicourse bird controller
	1 x Digicourse Digibird 5010 and 2x Digicourse compass bird 5011

Equipment onboard MV Fugro Pioneer	
Digital Data Acquisition Software	Starfix.GLog/GPlot data acquisition
	StarfixNG software
	Geometrics seismic controller acquisition
	SYS3 bird controller
	Kongsberg EM2040 Seafloor Information System acquisition
Data Processing Software	Starfix.VBA Proc
	Starfix.Workbench
	Chesapeake SonarWiz 6
	Geometrics MagPick
	IHS Kingdom 8.8
	GLOBE Claritas and Uniseis seismic processing
	Bentley MicroStation
	AutoDesk AutoCAD
	Fugro Back2Base transfer

Table 2.4: Equipment onboard MV Victor Hensen

Equipment onboard MV Victor Hensen	
Positioning and Navigation	4 x StarPack unit (c/w cables and antenna)
	5 x Alison AD492 GNSS & L-Band Antenna
	5 x Access to Starfix.HP, XP, G2 signals
	2 x Online survey computer (Starfix.Seis)
	3 x Fugro Starport
	1 x TS15A total station with tripod, prism and sunshot filter
	1 x TrackLink USBL top side unit
	1 x TrackLink USBL transceiver
	4 x Min-Beacon charger
	4 x Mini beacon
	1 x Pos MV
Geophysical Equipment	1 x Reson 7125 dual head MBES
	2 x SD204W probe
	1 x CTD/Day grab deployment winch
	1 x Starfix.MBE system
	2 x EdgeTech 4200-FS digital SSS
	1 x EdgeTech 701-DL topside unit
	2 x SSS Tow winch (c/w cable and cable counter)
	2 x Geometrics G882 Caesium vapour magnetometer
	1x Oretech 3010P pinger
Digital Data Acquisition Software	Starfix.GLog/GPlot data acquisition
	StarfixNG software
	Geometrics seismic controller acquisition
Data Processing Software	Starfix.VBA Proc
	Starfix.Workbench
	Chesapeake SonarWiz 6
	Geometrics MagPick
	IHS Kingdom 8.8
	Bentley MicroStation

Equipment onboard MV Victor Hensen	
	AutoDesk AutoCAD
	Fugro Back2Base transfer

2.3 Project Personnel

Table 2.5: Key Personnel in FSBV Office

Key Personnel in FSBV Office		
Location	**Function**	**Name**
Project Management	Project Manager	P-P. Lebbink
Reporting	Processing & Reporting Manager	P. Apostle
	Report Coordinator	J. Chisholm
	Geophysicists	V. Minorenti
		R. Nieboer
		M. van der Linde
	Data Processors/Cartographers	T. Rhodes
		B-J. Tijmes
		M. Samir
		R. Bhattacharyya
	GIS Coordinator	B. Possel
	GIS and CAD Specialist	G. Wang

Table 2.6: Personnel MV Fugro Pioneer

Personnel MV Fugro Pioneer from 07-03-2016 to 06-04-2016		
Location	**Function**	**Name**
Offshore	Party Chief	T. Harrison
	Surveyor	K. Bos
		F. Lucenti
	Maintenance Engineer	J. de Wolf
	Engineer	G. Reynolds
		R. Singh
		M. Caponi
		M. Buffone
	Geophysicist	R. Nieboer
		D. Seccia
		V. Vitale
	Seismic QC	R. Knook
	Data Processor	A. Wehmeyer
		C. Luna
Personnel MV Fugro Pioneer from 06-04-2016 to 18-04-2016		
Location	**Function**	**Name**
Offshore	Party Chief	P. Miller
	Surveyor	M. Volterrani
		C. Caielli
	Maintenance Engineer	J. Claudius
	Engineer	B. Luckhoo

		G. Cupido
		M. Caponi
		M. Buffone
	Geophysicist	R. Roepnarain
		D. Seccia
		V. Vitale
	Seismic QC	R. Knook
	Data Processor	Y.C. Tan
		K. Singh

Table 2.7: Personnel MV Victor Hensen

Personnel MV Victor Hensen from 17-03-2016 to 05-04-2016		
Location	**Function**	**Name**
Offshore	Party Chief	L. de Haan
	Surveyor	L. Stewart
		J. Hancock
		C. Caielli
	Engineer	R. McGunnigle
		T. Thanapalan
	Geophysicist	V. Minorenti
		G. Blackie
	Data Processor	D. Kumar
		N. Manaf

3. SURVEY CONTROL

3.1 Horizontal Control

3.1.1 MV Fugro Pioneer

The vessel's common reference point (CRP) was defined as the origin of the vessel's survey coordinate system. Refer to Figure 3.1 for a photograph, to Figure 3.2 for an offset diagram, and to Table 3.1 for the offsets table of MV Fugro Pioneer.

Figure 3.1: Photograph of MV Fugro Pioneer

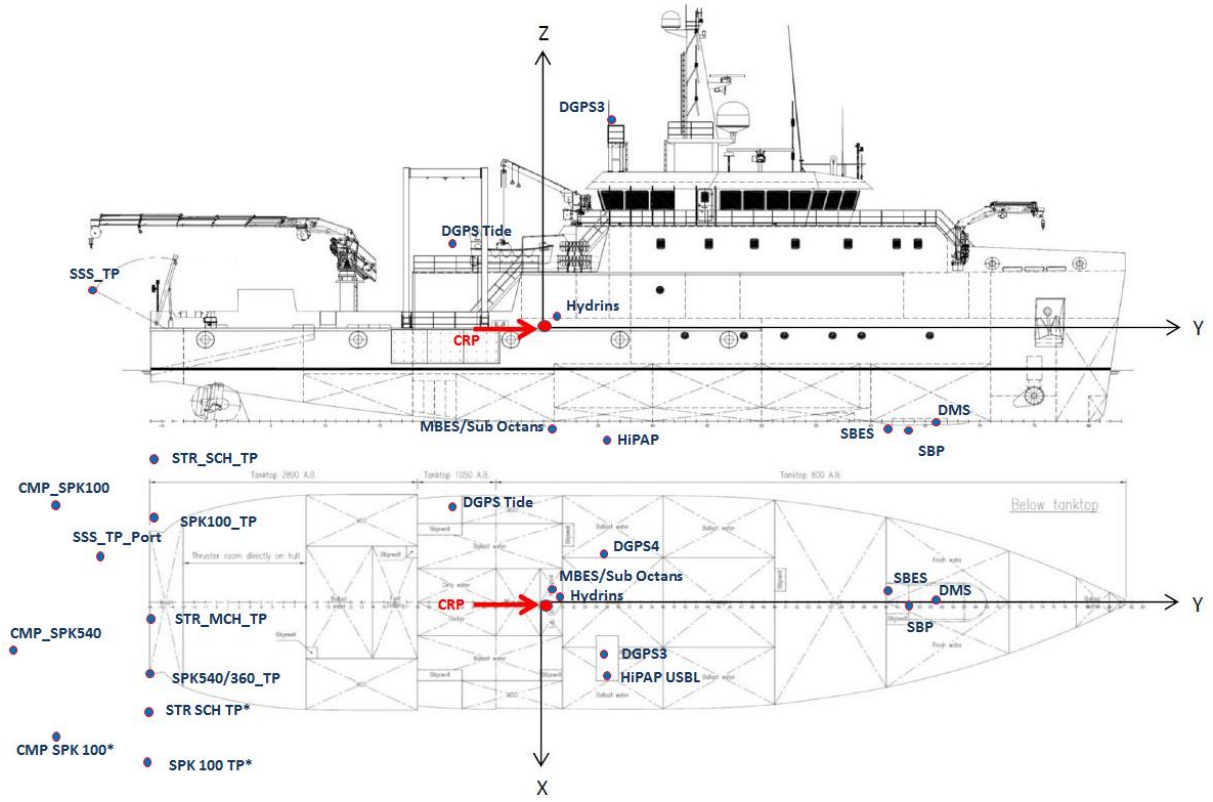


Figure 3.2: Offset diagram MV Fugro Pioneer

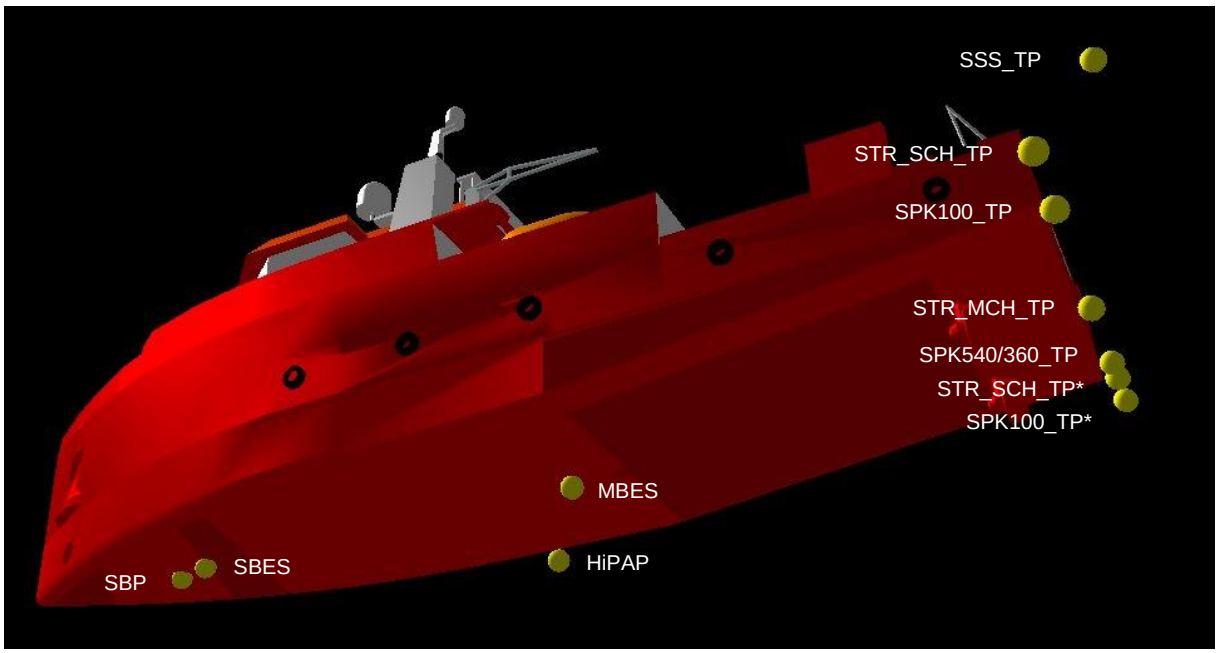


Figure 3.3: 3D Offset diagram MV Fugro Pioneer

Table 3.1: Offsets MV Fugro Pioneer

Offset (from CRP)	Name in diagram	X [m]	Y [m]	Z [m]	Layback [m]
CRP	CRP	0.00	0.00	0.00	-
DGPS3	DGPS3	3.18	4.26	12.13	-
DGPS4	DGPS4	-3.16	5.09	12.13	-
DGPS Tide	DGPS Tide	-5.82	-7.18	5.34	-
HydrINS	Hydrins	0.39	0.77	0.46	-
SBES	SBES	-0.66	20.19	-5.79	-
HiPAP USBL	HiPAP	3.91	3.56	-6.96	-
DMS	DMS	-0.35	21.90	-4.59	-
Sub_Octans	Sub Octans	-0.74	0.96	-5.33	-
MBES	MBES	-0.70	0.49	-6.05	-
SSS_TP_Port*	SSS_TP(_Port)	-3.65	-23.74	5.30	Variable
SBP	SBP	0.01	22.24	-5.73	-
Towed seismic setup					
SPK540_TP	SPK540/360_TP	5.78	-21.06	0.00	-
SPK360_TP	SPK540/360_TP	5.78	-21.06	0.00	-
SPK100_TP	SPK100_TP	-5.81	-21.04	0.00	-
STR_SCH_TP	STR_SCH_TP	-9.31	-21.04	0.00	-
STR_MCH_TP	STR_MCH_TP	1.20	-21.04	0.00	-
CMP_SPK540	CMP_SPK540	3.49	-63.55	0.00	-
CMP_SPK360	CMP_SPK540	3.49	-63.55	0.00	-
CMP_SPK100	CMP_SPK100	-7.56	-61.04	0.00	-

*Magnetometer was piggybacked behind the SSS system using a 20 m long cable.

Due to limited tow points the GSO 100-tip sparker, when used in the dual sparker option, was towed with little lateral separation from the SSS tow point. As a result of the shallow water depth in the survey area the layback of the SSS and piggybacked magnetometer was similar to the layback required for the GSO 100-tip sparker. Consequently, interference was seen on both the SSS and magnetometer data. To resolve this, it was recommended to tow both sparker systems on the same side of the vessel, which increased the lateral distance between the sparker systems and the SSS/magnetometer system. On 17 March 2016 a new configuration was arranged for the GSO 100-tip sparker. Refer to Table 3.2 for the offsets of the revised configuration.

Table 3.2: Offsets MV Fugro Pioneer

Offset (from CRP)	Name in diagram	X [m]	Y [m]	Z [m]	Layback [m]
STR SCH TP*	STR_SCH_TP*	7.18	-21.06	0.00	20.0
SPK 100 TP*	SPK100_TP*	9.28	-21.06	0.00	20.0
CMP SPK 100*	CMP SPK 100*	8.23	-41.06	0.00	-

3.1.2 MV Victor Hensen

The vessel's CRP was defined as the origin of the vessel's survey coordinate system. Refer to Figure 3.4 for a photograph, to Figure 3.2 for an offset diagram, and to Table 3.1 for the offsets table for MV Victor Hensen.

Figure 3.4: Photograph of MV Victor Hensen

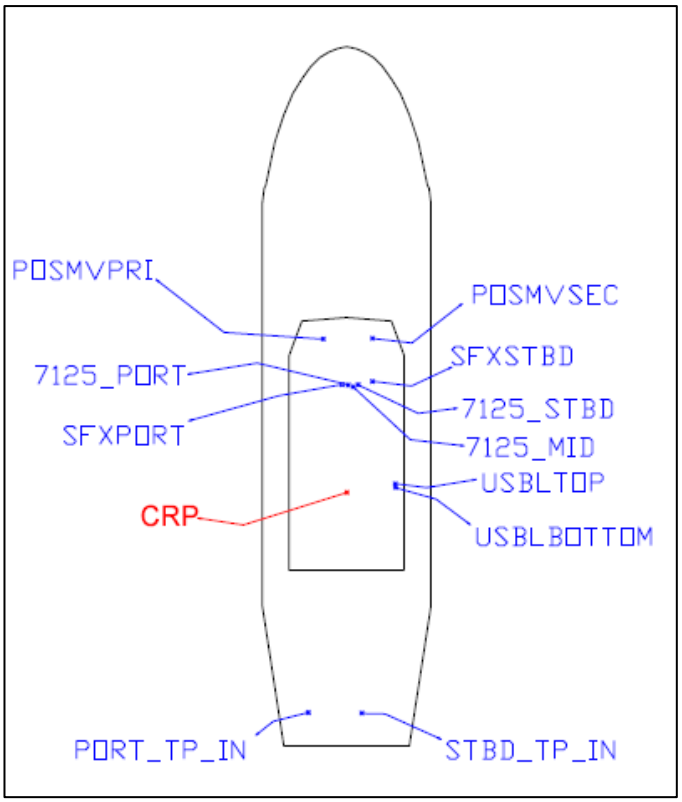


Figure 3.5: Offset diagram MV Victor Hensen

Note: a 3D vessel model of MV Victor Hensen was not available.

Table 3.3: Offsets MV Victor Hensen

Offsets (from CRP)	Name in diagram	X [m]	Y [m]	Z [m]	Layback [m]
CRP	CRP	0.000	0.000	0.000	-
Starpack Starboard (primary GPS)	SFXSTBD	1.442	6.830	13.951	-
Starpack Port (secondary GPS)	SFXPORT	-0.263	6.640	14.071	-
Reson MBES Port head	7125_PORT	0.085	6.634	-7.740	-
Reson MBES Starboard head	7125_STBD	0.644	6.651	-7.719	-
Reson MBES Mid point	7125_MID	0.372	6.534	-7.759	-
USBL Top	USBL TOP	2.709	1.125	-7.820	-
USBL Bottom	USBL BOTTOM	2.726	0.920	-8.063	-
Pos MV Primary	POSMVPRI	-1.303	9.202	10.599	-
Pos MV Secondary	POSMVSEC	1.439	9.239	10.548	-
Stern A-frame tow point Port (SSS and MAG*)	PORT_TP_IN	-2.140	-11.630	0.000	Variable
Stern A-frame tow point Starboard (SBP)	STBD_TP_IN	0.850	-11.660	0.000	Variable

*Magnetometer was piggybacked behind the SSS system using a 20 m long cable.

3.2 Vertical Control

The vertical datum was Lowest Astronomical Tide (LAT). Water depths are referenced to LAT and reduced using post-processed GNSS height data.

GNSS heights are referenced to LAT by using the Danish Technical University 2013 (DTU13MSS) model.

The DTU13MSS model is considered to be the most accurate currently available, providing consistent tide values regardless of location.

3.3 Time Reference

All logged data and associated record annotations were referenced to UTC. The Daily Operations Reports and the survey log book were recorded in local time which changed from UTC + 1 hour to UTC + 2 hours on Sunday 27 March 2016 in accordance with daylight saving time.

4. EQUIPMENT AND CALIBRATIONS

4.1 Survey Computer

The positioning systems were interfaced to a desktop computer system using Fugro's StarfixNG for data logging, positioning and processing.

The geodetic and projection parameters listed in Table 1.2 were utilised for the transformation from WGS84 to local datum. The quality parameters of the DGPS position fixes were used to validate the data and to control the processing. A motion sensor was interfaced to enable real-time calculation of the positions of survey sensors from ship's heading, layback and transverse offset to ship's origin.

The following data was logged for processing and plotting purposes:

- line number, fix number, date and time;
- positioning data;
- heading;
- pitch, roll and heave;
- cross-track and chainage relating to the sail line;
- positions of survey sensors;
- computed positions of all vessel offset point;
- motion-compensated bathymetric data.

4.2 Positioning and Navigation System

4.2.1 MV Fugro Pioneer

The positioning system used on MV Fugro Pioneer uses a Starfix.G2+ solution. The system uses ultra-precise (3.5 cm horizontal) GPS and GLONASS Global Positioning Services, using clock and orbit corrections enhanced with carrier-phase corrections from the Fugro Starfix.G2+ independent network of reference stations. The iXSea HydrINS sensor was interfaced to the navigation system to compensate for antenna movement induced by the heave, pitch and roll of the vessel and to provide vessel heading data.

The positioning systems were operated under the following conditions:

- minimum elevation mask of 10 degrees;
- minimum number of satellites: 5.

The primary positioning system (StarPack DGPS3) was verified onboard MV Fugro Pioneer during the vessel mobilisation in the port of Scheveningen, The Netherlands, on 8 March 2016 using land survey techniques with total station and known points on the quayside. The results of this verification are shown in Table 4.1. Details of the verification are presented in Appendix A.1.

Table 4.1: Positioning System Verification MV Fugro Pioneer

Date	Description	ΔEasting	S.D.	ΔNorthing	S.D.
		[m]	[m]	[m]	[m]
8 March 2016	StarPack DGPS3 G2+	-0.03	0.03	0.01	0.02

The comparison of positioning systems StarPack DGPS3 and StarPack DGPS4 took place on 8 March 2016 and 27 March 2016 in Scheveningen, The Netherlands. The results of the comparison are shown in Table 4.2 and Table 4.3. Details of the comparison are presented in Appendix A.3.

Table 4.2: Positioning System Comparison MV Fugro Pioneer

Date	Description	ΔEasting	S.D.	ΔNorthing	S.D.
		[m]	[m]	[m]	[m]
8 March 2016	StarPack DGPS3 G2+ and StarPack DGPS4 G2+	0.04	-0.08	0.03	0.04

Table 4.3: Positioning System Comparison MV Fugro Pioneer

Date	Description	ΔEasting	S.D.	ΔNorthing	S.D.
		[m]	[m]	[m]	[m]
27 March 2016	StarPack DGPS3 G2+ and StarPack DGPS4 G2+	-0.07	0.02	0.01	0.02

4.2.2 MV Victor Hensen

The positioning system used on MV Victor Hensen uses a G2+ solution.

The Pos MV and ProTrack sensor was interfaced to the navigation system to compensate for antenna movement induced by the heave, pitch and roll of the vessel and to provide vessel heading data.

The primary positioning system was verified onboard MV Victor Hensen during the vessel mobilisation in the port of Rotterdam, The Netherlands, on 17 March 2016 using land survey techniques with total station and known points on the quayside. The results of this verification are shown in Table 4.4. Details of the verification are presented in Appendix A.2.

Table 4.4: Positioning System Verification MV Victor Hensen

Date	Description	ΔEasting	S.D.	ΔNorthing	S.D.
		[m]	[m]	[m]	[m]
17 March 2016	StarPack G2+	-0.02	0.03	0.02	0.02

The comparison of positioning systems StarPack_Stdb_G2+ and StarPack_Port_G2+ took place on 21 March 2016 in Rotterdam, The Netherlands. The results of the comparison are shown in Table 4.5. Details of the comparison are presented in Appendix A.4.

Table 4.5: Positioning System Comparison MV Victor Hensen

Date	Description	ΔEasting [m]	S.D. [m]	ΔNorthing [m]	S.D. [m]
21 March 2016	StarPack_Stbd_G2+ and StarPack_Port_G2+	0.03	-0.08	-0.03	0.04

4.3 Heading System and Motion Sensor

4.3.1 MV Fugro Pioneer

The survey gyrocompass alignments were checked in Scheveningen, The Netherlands, on 7 March 2016 using a total station measurement method, refer to Table 4.6. Detailed reports of the alignment checks are presented in Appendix A.5.

Table 4.6: Gyrocompass Alignment Check MV Fugro Pioneer

Date	Gyro	Method	C-O [°]
7 March 2016	HydrINS	Sunshot	0.08
7 March 2016	Subsea Octans	Sunshot	0.27
7 March 2016	Meridian	Sunshot	-0.18
7 March 2016	GNSS Heading	Sunshot	-0.16

4.3.2 MV Victor Hensen

The heading alignment systems Pos MV and ProTrack were checked on 18 March 2016 in Rotterdam, The Netherlands, using the taped offset measurements technique. The C-O values were entered into the navigation software. Detailed reports of the alignment checks are presented in Appendix A.6 .

Table 4.7: Heading Sensor Alignment Check MV Victor Hensen

Date	Gyro	Method	C-O [°]
18 March 2016	Pos MV	Taped offset measurement	-0.92
18 March 2016	ProTrack	Taped offset measurement	-0.82

4.4 Single Beam Echo Sounder

4.4.1 MV Fugro Pioneer

A Kongsberg EA400 SBES with 33/210 kHz hull-mounted transducer was used for bathymetry. In addition a Teledyne TSS DMS 3 – 25 MRU was interfaced to the SBES in order to reduce the influence of the vessel's vertical movement on depth readings. Refer to Table 4.8 for the installation details.

Table 4.8: SBES Operational Installation MV Fugro Pioneer

SBES	Kongsberg EA400
Frequency	33 kHz
Range	Dependent on water depth
Heave compensation	iXBlue HydrINS / DMS25
Transducer draught	3.3 m - 3.4 m

4.5 Multibeam Echo Sounder

4.5.1 MV Fugro Pioneer

A Kongsberg EM2040 MBES, in a single transmitting transducer (Tx) / dual receiving transducer (Rx) configuration, was used to accurately map seabed bathymetry across the WFZ. An iXBlue HydrINS (inertial gyrocompass and motion sensor) mounted close to the CRP was interfaced with the MBES in order to reduce the influence of the ship's movement on depth readings. In addition, an iXSea Octans MK3000 subsea MRU is mounted in the moonpool and functions as a backup MRU. The vessel draught was measured during mobilisation in Scheveningen, The Netherlands, and periodically during the project. Refer to Table 4.9 for the installation details.

Table 4.9: MBES Operational Installation MV Fugro Pioneer

MBES	Kongsberg EM 2040
Frequency	400 kHz
Swath coverage	Variable depending on water depth
Number of beams	800
Motion & Heave compensation	iXBlue HydrINS
Transducer draught	3.4 m - 3.5 m

An MBES calibration was conducted on 10 March 2016 on a sand wave crest located south of WFS III, at Latitude: 52° 14' 02'' N Longitude: 03° 58' 02'' E (WGS84) in a water depth of 23 metres. The results of these calibrations are summarised in Table 4.10. Details of the calibration are presented in Appendix A.7 of this report.

Table 4.10: MBES Calibration MV Fugro Pioneer

Date	Derived Corrections	Latency	Pitch	Roll	Yaw
		[sec]	[º]	[º]	[º]
10 March 2016	Tx	0.000	-0.730	+0.030	0.00
	Rx Port	0.000	-0.830	-0.085	0.05
	Rx Stbd	0.000	-0.830	-0.090	0.05

An absolute depth check was performed at the threshold of the Maeslantkering comparing the depths acquired using the MBES system with supplied depth values. The result are summarised in Table 4.11 and details are presented in Appendix A.8.

Table 4.11: Absolute Depth Check MV Fugro Pioneer

Date	Measured depth [m]	Supplied depth [m]	Difference [m]	Tolerance [m]
26 March 2016	16.75	16.77	0.02	0.15

A bathymetry data comparison was conducted for MV Fugro Pioneer and MV Victor Hensen. The results are summarised in Table 4.12 and details are reported in Appendix A.11.

Table 4.12: Bathymetry Data Comparison of MV Fugro Pioneer and MV Victor Hensen

Date	Average (mean) depth difference [m]	Average (mode) depth [m]	Standard deviation [m]	Data points within +/- 0.05 m [%]
20 March 2016	0.008	0.021	0.038	81.7

4.5.2 MV Victor Hensen

A Reson 7125 dual head system was used to accurately map seabed bathymetry across the WFZ. A POS MV (gyro compass and POS MV motion sensor) was interfaced with the MBES in order to reduce the influence of the ship's movement on depth readings. The vessel draught was measured during mobilisation in Rotterdam, The Netherlands, and periodically during the project. Refer to Table 4.13 for the installation details.

Table 4.13: MBES Operational Installation MV Victor Hensen

MBES	Reson 7125
Frequency	400 kHz
Swath coverage	Variable depending on water depth
Number of beams	1024
Motion & Heave compensation	POS MV
Transducer draught	3.9 - 4.1 m

An MBES calibration was conducted onboard MV Victor Hensen on 20 March 2016 on a seabed slope, located south of WFS III, at Latitude: 52° 14' 02'' N Longitude: 03° 58' 02'' E (WGS84) in a water depth of 23 m. The results of these calibrations are summarised in Table 4.14. Details of the calibration are presented in Appendix A.9 of this report.

Table 4.14: MBES Calibration MV Victor Hensen

Date	Derived Corrections	Latency	Pitch	Roll	Yaw
		[sec]	[°]	[°]	[°]
20 March 2016	Rx Port	+0.00	1.00	0.30	-1.50
	Rx Stbd	+0.00	2.25	-0.50	-1.50

An absolute depth check was performed at the threshold of the Maeslantkering comparing the depths acquired using the MBES system with supplied depth values. The result are summarised in Table 4.15 and details are presented in Appendix A.10.

Table 4.15: Absolute Depth Check MV Victor Hensen

Date	Measured depth [m]	Supplied depth [m]	Difference [m]	Tolerance [m]
19 March 2016	16.79	16.77	0.03	0.15

4.6 Sidescan Sonar System

4.6.1 MV Fugro Pioneer

The EdgeTech 4200-FS is a dual simultaneous frequency SSS system, which utilises Full Spectrum CHIRP technology. The frequency utilised for recording the High Frequency data was a linear sweep from 530.5 to 583.5 kHz, and for the Low Frequency from 116.3 to131.8 kHz.

The data was digitally recorded on Starfix.GLog/GPlot software for digital processing.

A Kongsberg HiPAP USBL positioning system was used for towfish positioning. The EdgeTech 4200-FS system incorporates an internal fluxgate compass which can be used for post-processing of towfish heading values. Refer to Table 4.16 for the installation details.

Table 4.16: SSS Operational Installation MV Fugro Pioneer

SSS	EdgeTech 4200-FS
Range	125 m
Frequency	Linear sweep: 530.5 – 583.5 kHz (HF) and 116.3 kHZ -131.8 kHz (LF)
Cable out	Variable (depending on water depth and ship's speed)

4.6.2 MV Victor Hensen

The EdgeTech 4200-FS is a dual simultaneous frequency SSS system, which utilises Full Spectrum CHIRP technology. The frequency utilised for recording the High Frequency data was a linear sweep from 530.5 to 583.5 kHz, and for the Low Frequency from 116.3 to131.8 kHz.

The data was digitally recorded on Starfix.GLog/GPlot software for digital processing.

A Tracklink USBL positioning system was used for the SSS towfish positioning. The EdgeTech 4200-FS system incorporates an internal fluxgate compass which can be used for post-processing of towfish heading values. Refer to Table 4.17 for the installation details.

Table 4.17: SSS Operational Installation MV Victor Hensen

SSS	EdgeTech 4200-FS
Range	125 m
Frequency	Linear sweep: 530.5 – 583.5 kHz (HF) and 116.3 kHz -131.8 kHz (LF)
Cable out	Variable (depending on water depth and ship's speed)

4.7 Magnetometer

The Geometrics G-882 marine magnetometer used for this project onboard both vessels, MV Fugro Pioneer and MV Victor Hensen, has a very high resolution Caesium Vapour performance. The instrument is capable of achieving high sensitivity and sampling rates and is applicable both in shallow and deep water. It has a minimum sensitivity of less than 0.004 nT/Hz rms. A sampling rate of 10 samples per second was used during this survey.

4.8 Ultra Short Baseline System

4.8.1 MV Fugro Pioneer

A USBL system allows the measurement of range and bearing from a vessel-based transceiver to a single, subsea transponder. It generally operates through the phase discrimination of an acoustic signal recorded by three orthogonal transducers. A Kongsberg HiPAP USBL positioning system was used onboard MV Fugro Pioneer for towfish positioning.

MV Fugro Pioneer carried out a USBL calibration on 4 March 2016. The calibration was performed at the Skagerrak, Denmark, and aimed to determine the accuracy and possible corrections for the Kongsberg HiPAP USBL positioning system. The beacon was moored on the sea bottom and the vessel stationed on 4 cardinal points to determine orientation, pitch and roll corrections. These values were entered in the APOS software that controls the HiPAP system.

In addition to the calibration, a USBL verification was conducted. The USBL verification was performed on 5 March 2016 before the start of a previous debris survey just before the current survey. The verification consisted of running two SSS lines in opposite directions over some mattresses near the F03-FB platform location. The verification was conducted in order to determine the accuracy of the HiPAP USBL system in conjunction with the SSS system. A detailed report of the USBL calibration and verification are presented in Appendix A.12 and A.13.

4.8.2 MV Victor Hensen

A USBL system allows the measurement of range and bearing from a vessel-based transceiver to a single, subsea transponder. It generally operates through the phase discrimination of an acoustic signal recorded by three orthogonal transducers. A TrackLink USBL positioning system was used onboard MV Victor Hensen for the towfish positioning.

MV Victor Hensen performed a USBL calibration on 19 March 2016, nearby the survey area using a shallow water USBL calibration procedure with least square method. Refer to Appendix A.14 for details.

A USBL verification was conducted onboard MV Victor Hensen on 20 March 2016. The verification consisted of running two SSS lines in opposite direction over the subsea completion P15-10S. The verification was conducted in order to determine the accuracy of the USBL system in conjunction with the SSS system. A detailed report of the USBL verification is presented in Appendix A.15.

4.9 Sub-bottom Profiler System

4.9.1 MV Fugro Pioneer

The hull-mounted pinger (HMP), Massa TR-1075 Pinger array installed onboard MV Fugro Pioneer was used for detecting shallow sub-surface layers. The system comprises an array of sixteen (16) transducers, with two (2) additional transducers added to the front row. The array was operated using the following configurations:

- 3 x 3, where all transducers were set in combined mode (Tx/Rx).

For this configuration the transducers were operated at 5.0 kHz.

A TSS DMS-25 motion reference unit was installed close to the transducer array, to compensate for the influence of the vertical movement on the recordings. Refer to Table 4.18 for the SBP (pinger) operational installation details.

Table 4.18: SBP (pinger) Operational Installation MV Fugro Pioneer

HMP (4 x 4 + 2 configuration)	Massa TR-1075
Record length	150 ms
Source frequency	5.0 kHz
Sampling interval	0.05 ms
Bandpass filter	4.0 – 6.0 kHz (2 kHz bandwidth)
Power (3 x 3 setting)	0.466 kW (2% of 23.33 kW)
Firing rate	130 ms

4.9.2 MV Victor Hensen

The towed-system Oretech Pipeliner II, model 3010P was used to determine the shallow subsea geology, and to possibly identify buried objects (e.g. pipelines). The sub-bottom profiler contains two bottom-penetrating transducers, one operating at a frequency of 10 to 14 kHz, and two at 3.5 to 7 kHz. The higher frequencies provide better resolution in pipeline detection and more accuracy in depth of burial, the lower frequencies give more penetration into the seabed. For this configuration the transducers were operated at 5.0 kHz.

Refer to Table 4.19 for the SBP (pinger) operational installation details.

Table 4.19: SBP (pinger) Operational Installation MV Victor Hensen

Sub-bottom profiler	Oretech 3010P
Record length	150 ms
Source frequency	5.0 kHz
Sampling interval	0.05 ms
Bandpass filter	4.0 – 6.0 kHz (2 kHz bandwidth)
Power	90% of 5kW
Firing rate	130 ms

4.10 Single- and Multichannel Sparker Seismic Survey System

Single- and multichannel seismic data were acquired simultaneously onboard MV Fugro Pioneer through the different WFS.

4.10.1 Multichannel UHR Seismic Survey

The system to acquire multichannel seismic data consisted of a GSO 540-tip dual-frequency sparker source, an Applied Acoustic CSP-N 2400 J power supply unit and a 48 channel Geometrics GeoEel solid streamer as a receiver recording half-fold data.

The CNT-2 Marine controller acquisition software was used throughout the survey. The sparker data were recorded in SEG-D 8058 format. The system was operated using the following parameters:

Table 4.20: Multichannel Operational Installation MV Fugro Pioneer

Sparker	GSO 540 (360+180) -tip sparker
Source tow depth	0.4 m
Source output energy	1250 J
Shot point interval	3.125 m
Streamer	Geometrics GeoEel solid streamer
Streamer tow depth	0.4 m +/- 0.15 m
Length active section	150 m
No. of Groups	48
Hydrophones per group	4
Group interval	3.125 m
Streamer sensitivity	20 μV/μB
Record length	250 ms
Sampling interval	0.05 ms (1/20th)

The streamer was maintained at the required tow depth of 0.4 m during acquisition, with a streamer balanced for natural buoyancy and the depth monitored and corrected by the Digicourse active leveller system communicating with Digicourse depth sensors from three birds attached to the streamer. The streamer was decoupled from the vessel heave using an 8 m tow leader, a 25 m anti-vibration and a 10 m stretch section. A small Norwegian buoy was towed from the end of the streamer.

During mobilisation, pulse tests were performed to optimise source depth and power settings for both the GSO 540-tip and the GSO 100-tip sparker. Sea trials were performed to investigate the optimal sparker towing setup that suited the scope of work requirements, with respect to resolution, signal to noise ratio and penetration. This report was issued to the Client on 15 March 2016 and is presented in Appendix A.16.

4.10.2 Single-channel Survey

The system to acquire single channel seismic data consisted of a GSO 100-tip sparker source, a Geo-Resources Geo-Spark 1000 J power supply and an 8 element Geo-Resources Geo-Sense mini-streamer.

Table 4.21: Single-channel Operational Installation MV Fugro Pioneer

Sparker	GSO 100-tip sparker
Source tow depth	0.3 m
Source output energy	200-300 J
Shot point interval	3.125 m
Streamer	Geo-resources Geo-Sense mini-streamer
Streamer tow depth	0.3 m
No. of hydrophones	8
Record length	150 ms
Sampling interval	0.05 ms (1/20th)

The GLogIV system was used for acquisition and Starfix.GLog/GPlot was used to record the digital data in SEG-Y (REV1) format.

4.11 Sound Velocity Profiler

4.11.1 MV Fugro Pioneer

Two SD204 CTD profilers (SD1165 and SD1166) were mobilised to acquire a sound velocity profile (SVP) through the water. The profile data is utilised for the SBES and MBES, refer to Table 4.23 for the sound velocity measurements.

The CTD profilers can be programmed to measure conductivity, temperature and depth (pressure) at varying intervals and the sound velocity is calculated from these values. The recorded data is saved on the CTD profiler and downloaded after completion of the measurement.

A Valeport miniSVS is used to measure the real time sound velocity at the multibeam head. The miniSVS is interfaced with the EM2040 acquisition computer and the data is recorded in the Kongsberg SIS software.

The calibration dates of both devices are presented in Table 4.22. Detailed reports are presented in Appendix A.17.

Table 4.22: CTD and miniSVS Calibration Dates

Device	Serial number	Calibration date
SAIV SD204 CTD	1165	03-07-2015
SAIV SD204 CTD	1166	08-03-2016
Valeport miniSVS	26541	17-04-2015
Valeport miniSVS	44878	27-05-2014

On 9 March 2016, two SVPs were acquired at the same location to verify that both types of profiler give a similar result. The comparison and all sound velocity measurement reports performed during the survey can be found in Appendix A.18 and A.19. A summary is presented in Table 4.23.

Table 4.23: Sound Velocity Measurements MV Fugro Pioneer

Date	Average Velocity of Sound [m/s]	Date	Average Velocity of Sound [m/s]
09/03/2016	1466.00	30/03/2016	1480.46
10/03/2016	1474.53	30/03/2016	1480.58
10/03/2016	1475.62	31/03/2016	1480.20
11/03/2016	1475.30	31/03/2016	1480.03
11/03/2016	1475.92	31/03/2016	1480.42
12/03/2016	1474.97	01/04/2016	1478.88
12/03/2016	1475.43	01/04/2016	1478.95
13/03/2016	1475.30	02/04/2016	1478.96
13/03/2016	1474.71	15/03/2016	1475.50
14/03/2016	1475.30	15/03/2016	1476.39
14/03/2016	1475.86	16/03/2016	1475.09

Date	Average Velocity of Sound [m/s]
20/03/2016	1475.83
21/03/2016	1476.43
21/03/2016	1476.10
22/03/2016	1478.65
22/03/2016	1475.57
22/03/2016	1476.47
23/03/2016	1478.70
23/03/2016	1474.12
23/03/2016	1476.84
24/03/2016	1477.68
24/03/2016	1478.58
25/03/2016	1476.48
25/03/2016	1478.63
26/03/2016	1475.35
26/03/2016	1457.69
26/03/2016	1449.90
26/03/2016	1451.47
26/03/2016	1448.70
26/03/2016	1445.27
30/03/2016	1478.34

Date	Average Velocity of Sound [m/s]
16/03/2016	1474.54
17/03/2016	1474.40
18/03/2016	1475.35
18/03/2016	1474.71
19/03/2016	1475.04
19/03/2016	1475.18
20/03/2016	1475.58
20/03/2016	1476.60
02/04/2016	1480.53
02/04/2016	1479.79
02/04/2016	1479.32
02/04/2016	1478.76
03/04/2016	1479.70
03/04/2016	1478.66
03/04/2016	1481.11
04/04/2016	1480.72
05/04/2016	1480.27
05/04/2016	1482.01
05/04/2016	1482.67

4.11.2 MV Victor Hensen

A SD204 CTD profiler (SD 322) was mobilised to acquire a sound velocity profile (SVP) through the water. The profile data is utilised for the MBES.

The CTD profilers can be programmed to measure conductivity, temperature and depth (pressure) at varying intervals and the sound velocity is calculated from these values. The recorded data is saved on the CTD profiler and downloaded after completion of the measurement.

The calibration dates of both devices are presented in Table 4.25. Detailed reports of the calibration and measurements are presented in Appendix A.20 and A.21.

Table 4.24: CTD Calibration Dates

Device	Serial number	Calibration date
SAIV SD204 CTD	322	11-12-2015
SAIV SD204 CTD	1041	08-04-2016

Table 4.25: Sound Velocity Measurements MV Victor Hensen

Date	Average Velocity of Sound [m/s]
19/03/2016	1474.58
19/03/2016	1459.20
20/03/2016	1475.57
20/03/2016	1476.85
21/03/2016	1476.94
22/03/2016	1474.78
23/03/2016	1474.58
23/03/2016	1475.66
30/03/2016	1478.22

Date	Average Velocity of Sound [m/s]
30/03/2016	1480.00
31/03/2016	1480.18
01/04/2016	1479.22
01/04/2016	1477.49
02/04/2016	1477.48
02/04/2016	1478.99
02/04/2016	1480.46
03/04/2016	1480.00
04/04/2016	1480.20

5. DATA QUALITY AND ACCURACY

5.1 Positioning and Navigation

The Starfix G2+ system performed well throughout the survey. The number of minimum satellites was set to five (5) satellites to ensure good data accuracy. The accuracy for the StarPack (Primary and Secondary system) is 0.1 m.

5.2 Bathymetry

This Danish Technical University (DTU13) model normally fits very well for all depth data, measured on different days. The accuracy is normally observed to be within 0.15 m.

The TPU (Total Propagated Uncertainty) for the MBES data collected by MV Fugro Pioneer and MV Victor Hensen was calculated by using vessel and system specific statistical models in combination with acquired multibeam and ancillary sensor data such as motion. The TPU was derived from a combination of all individual uncertainty sources. The following uncertainty sources (among others) contribute to the TPU:

- Nav/gyro/heave/pitch/roll/ tide uncertainties;
- Latency uncertainties;
- Sensor offset uncertainty estimates;
- Individual sonar model characteristics.

A model was constructed for each survey vessel separately due to the different equipped survey sensors. TPU results of both vessels were merged into a combined grid and exported in the following products:

- ***DpTPU***: The uncertainty associated with the depth value of a sounding. It is a random uncertainty and is scaled to 95% (1.96 sigma);
- ***HzTPU*****:** The uncertainty associated with the position of a sounding. It is a random uncertainty and is scaled to 95% (1.96 sigma).

Table 5.1: Uncertainty values

	Total Horizontal Uncertainty	Total Vertical Uncertainty
Minimum [m]	0.392	0.168
Maximum [m]	0.435	0.320
Mean [m]	0.398	0.182

5.3 Sidescan Sonar

The quality of the SSS data was good. The lateral resolution of the 100-125/530-580 kHz dual frequency data is approximately 0.2 m. Obstructions smaller than the resolution of the sonar may not have been detected. Some of the data were acquired in marginal weather. Marginal lines were all quality controlled and overlaid against other existing acquired lines to ensure that the imaging of the seabed was of sufficient quality to meet the survey requirements.

Heights of seabed obstructions estimated from the SSS data are considered to have an accuracy of ± 0.1 m. The positional accuracy of features, interpreted from the SSS data, depends on a combination of the vessel positioning, acoustic positioning of the towfish relative to the vessel and interpretation of position relative to the towfish. For this dataset the overall positional accuracy is estimated as 1-3 m.

5.4 Magnetometer

The positional accuracy of features interpreted from the magnetic data depends on a combination of the quality of the differential GPS positions received, the measurement of cable out and the USBL accuracy. Moreover, the detectability decreases with distance from the survey line. Therefore, where targets are not mapped between lines this does not mean that no targets are present. Typical flying heights were in the range of 2 m to 5 m. Due to the uneven seabed some areas were surveyed with the magnetometer flying at more than 7 m from the seabed.

The quality of the magnetometer data was generally good. However noise (up to 5 nT) was observed on a number of lines caused by towing the sparker too close to the magnetometer. Processing sequences were set up to minimise the effect of this interference with good results

The positional accuracy of the magnetic data is estimated considering a radius of approximately 1-3 m.

Afterwards, the magnetometer data were imported in Geosoft Oasis Montaj software and processed. The residual magnetic signal was gridded and is presented on the charts. Refer to Figure 5.1 for a data example of the raw magnetic data (with sparker noise of ~5nT) the applied B-spline filter and the residual signal. As contact picking was performed on the unresidualised data refer to Figure 5.2 for a data example of how target picking was done. The anomaly presented in both figures is corresponding with contact number M-FP-1534.

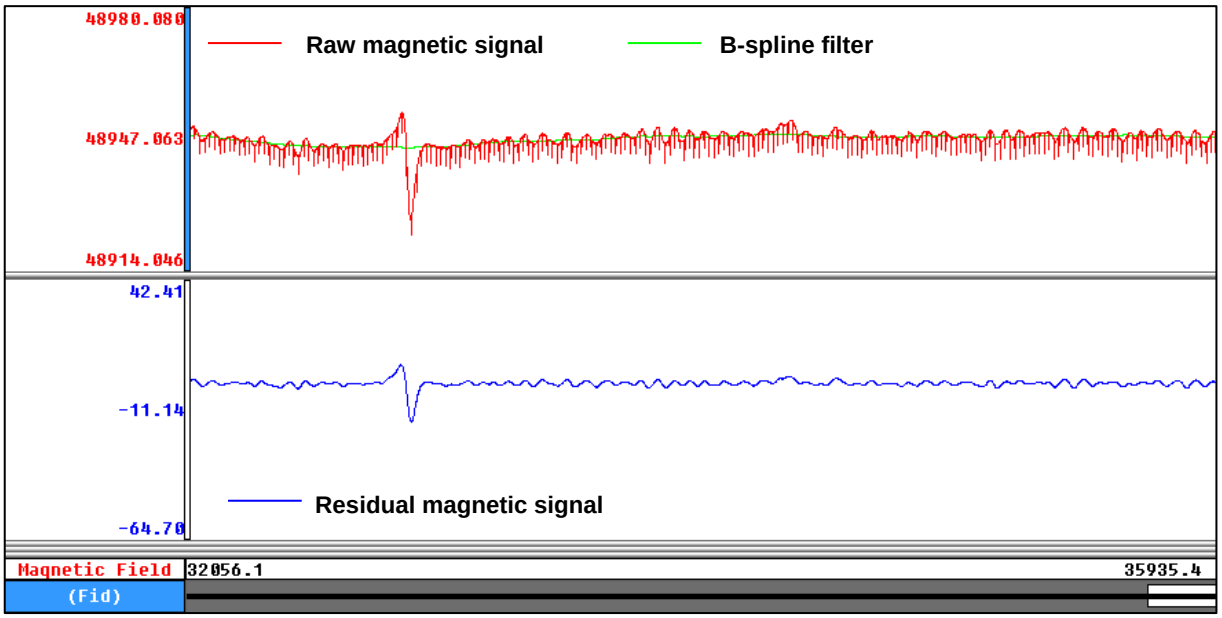


Figure 5.1: Data example of raw, processed and the residual signal of the magnetometer data

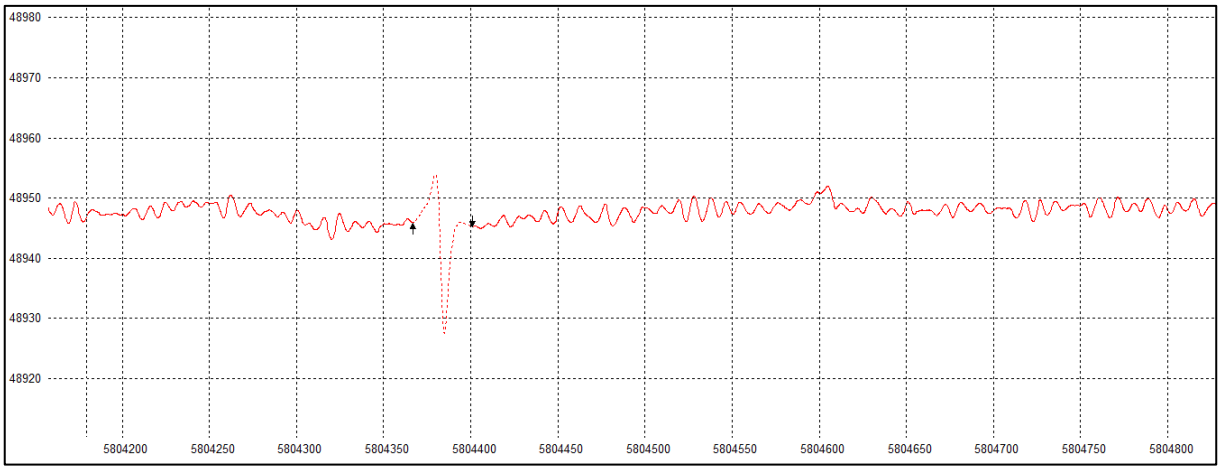


Figure 5.2: Data example of de-spiked unresidualised magnetometer data target picking

5.5 Seismic equipment

The accuracy of the SBP, the single channel sparker and the multichannel sparker is presented below. There is a limitation to the available dataset for mapping complex 3-dimensional geology, as the line spacing is 300 m between SSW-NNE lines and 750 m for WNW-ESE lines.

5.5.1 Sub Bottom Profiler

The penetration achieved with the sub-bottom profiler was limited due to the nature of the lithology (sand) of the site. However in places, shallow horizons (e.g. H01 and shallow channelling systems) were clearly observed in the data (Figure 5.3). The overall quality of the data is deemed to be good but lacking in resolving geological horizons due to local geological constraints.

A useful acoustic penetration up to 10 ms or approximately 8 m below seabed was generally achieved over the survey area. The vertical resolution of the data is estimated as 0.1 m for the sub-bottom profiler; soil layers thinner than this may not have been detected.

The line spacing is approximately 100 m; sub-seabed features smaller than 100 m and present between the lines may not have been detected. Depths and positions of soil layers between survey lines are based on interpolation, the reliability of which depends on the complexity of the geology. The sub-seabed depths were estimated using an assumed acoustic velocity of 1600 m/s, which is considered reasonable for the interpreted sediment types, and was cross checked against geotechnical information via tie-in lines. The accuracy of depth estimates depends on the vertical resolution of the data and the acoustic velocity (1600 m/s) used to convert two-way reflection times to depth and is calculated to be approximately ±1% of sub-seabed depth.

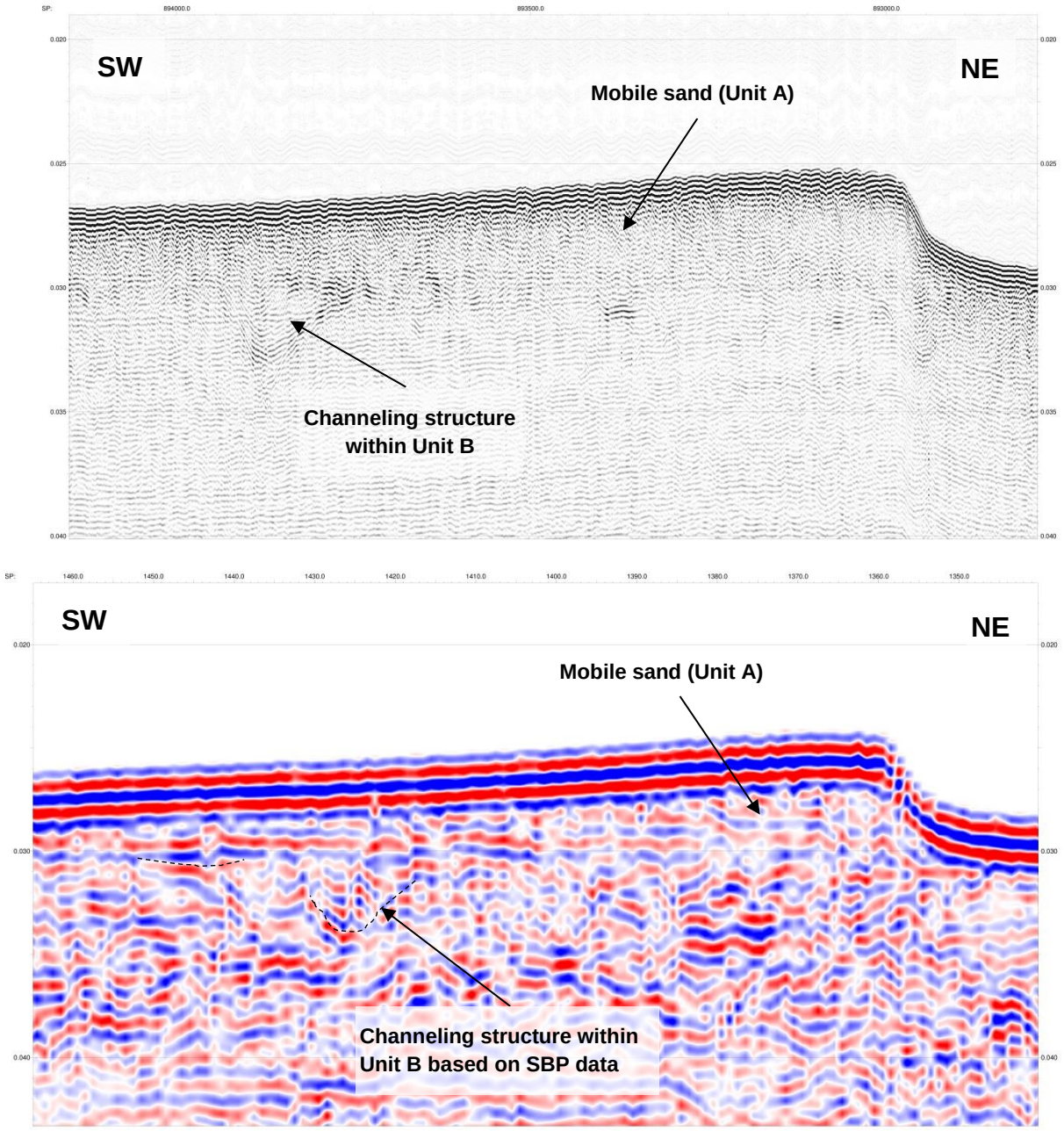
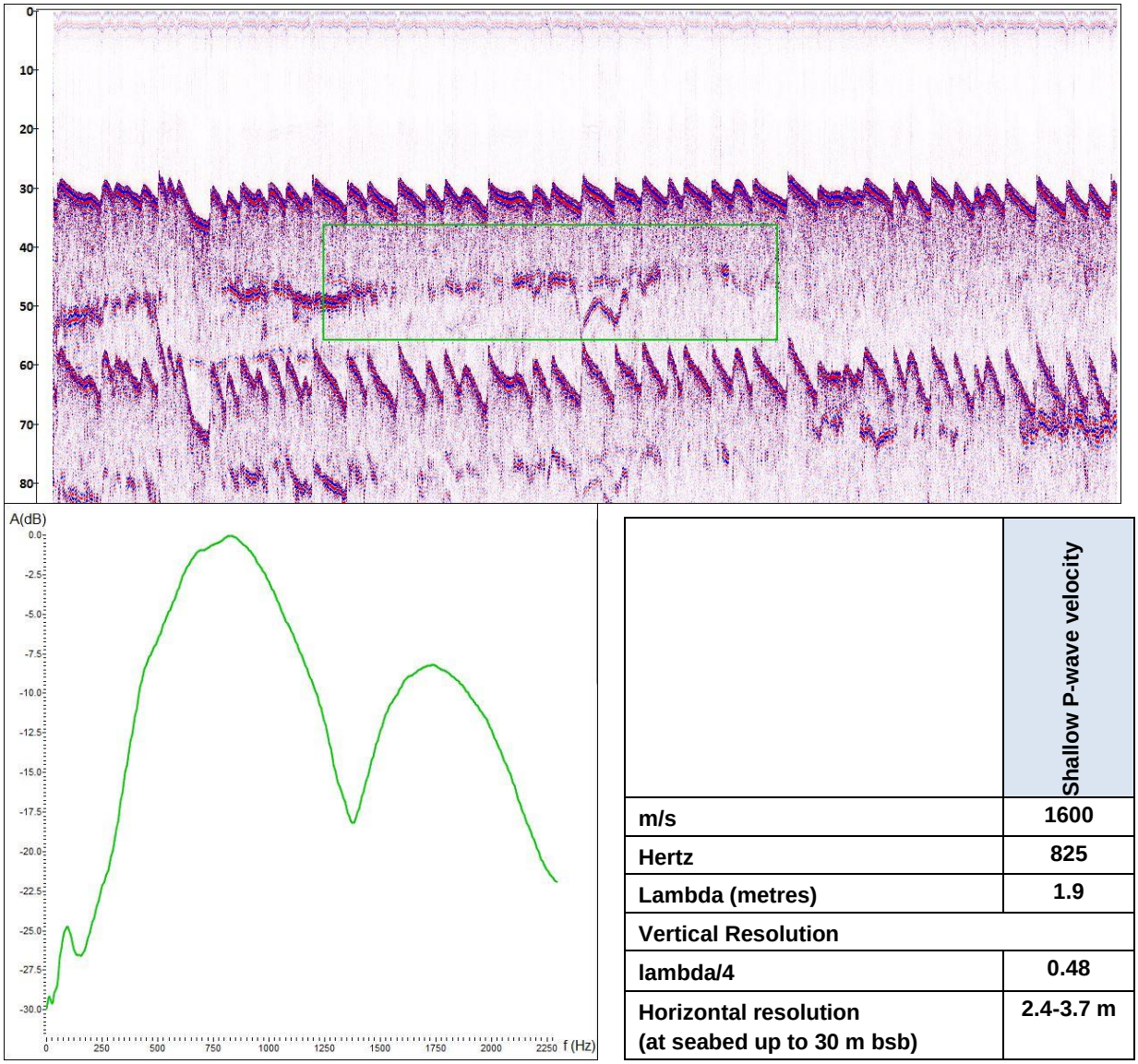


Figure 5.3: SBP data comparison against SCS data (line FPSeis54)

5.5.2 Single Channel Sparker profile

Vertical resolution analysis was carried out on line FPSEIS25A by determining the amplitude spectrum for a window (between ~35 ms and 55 ms TWTT) as shown in Figure 5.4 giving a peak value of 825 Hz. A velocity value of 1600 m/s, was used for calculating the average wavelength (“lambda”). The vertical resolution was then derived from the relationship “λ/4”. The vertical resolution estimated is 0.48 m. Refer to Figure 5.4 for a summary of the vertical analyses. The horizontal resolution at mid-range depth (~15 m) is 3.0 m.



	Shallow P-wave velocity
m/s	1600
Hertz	825
Lambda (metres)	1.9
Vertical Resolution	
lambda/4	0.48
Horizontal resolution (at seabed up to 30 m bsb)	2.4-3.7 m

Figure 5.4: Vertical resolution analysis single channel system

5.5.3 UHR profile

Vertical resolution analysis was carried out on line FPSEIS25A by determining the amplitude spectrum in three different windows as shown in Figure 5.5 and Figure 5.6. The vertical resolution is estimated from the average wavelength (lambda) and derived from the relationship “λ/4”, while the horizontal resolution (after migration) is derived from the relationship “λ/2”. Details are listed in Table 5.2.

Table 5.2: Vertical and Horizontal resolution along Line FPSEIS25A

Shot Point	Time [ms]	Velocity [m/s]	Frequency [1/s]	λ/2 [m]	λ/4 [m]
8200	40	1768	562	1.6	0.8
3400	58	1768	625	1.4	0.7
5300	95	1820	500	1.8	0.9

The geology across the survey area comprises of four (4) Quaternary units. A detailed description of the interpreted seismic units is presented in the results reports.

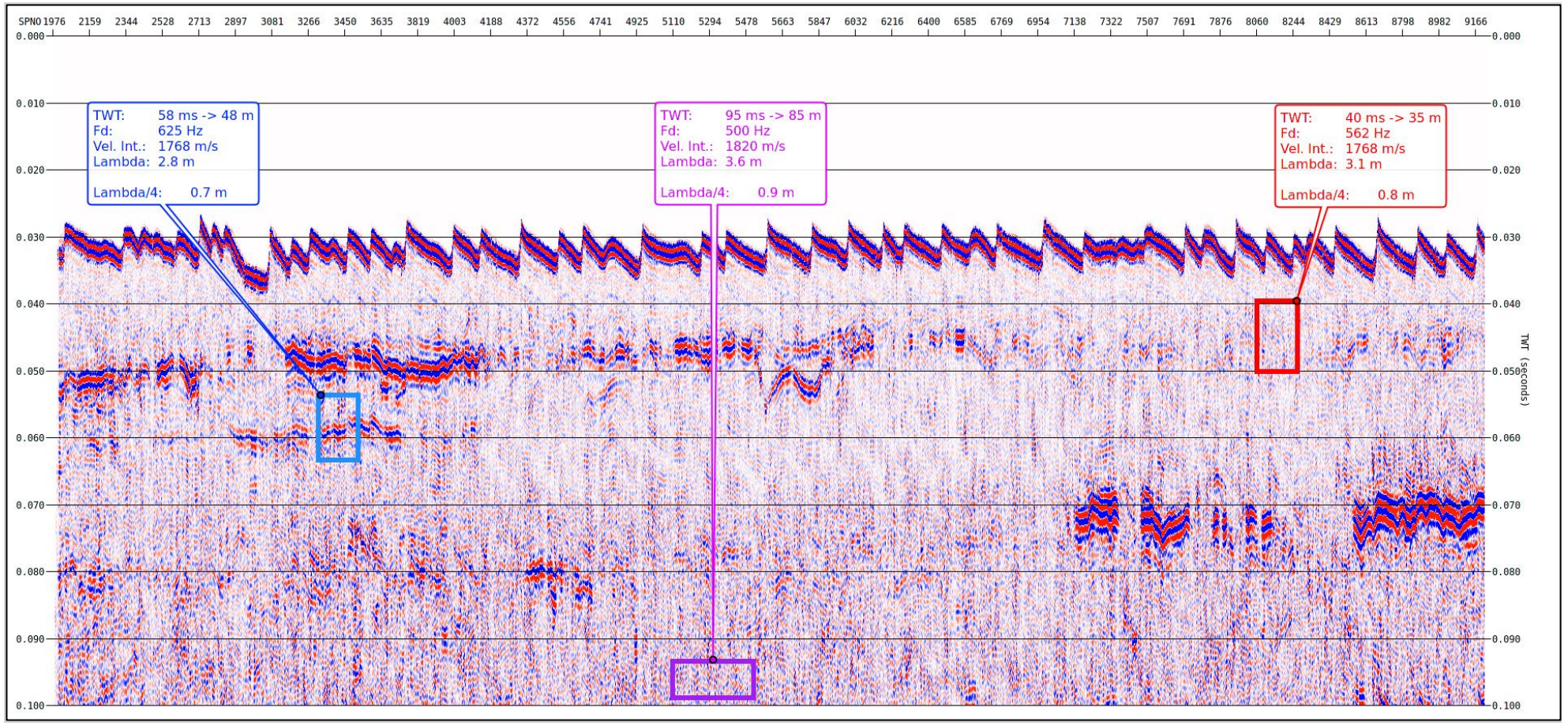


Figure 5.5: Time and Shot point intervals for the resolution calculations

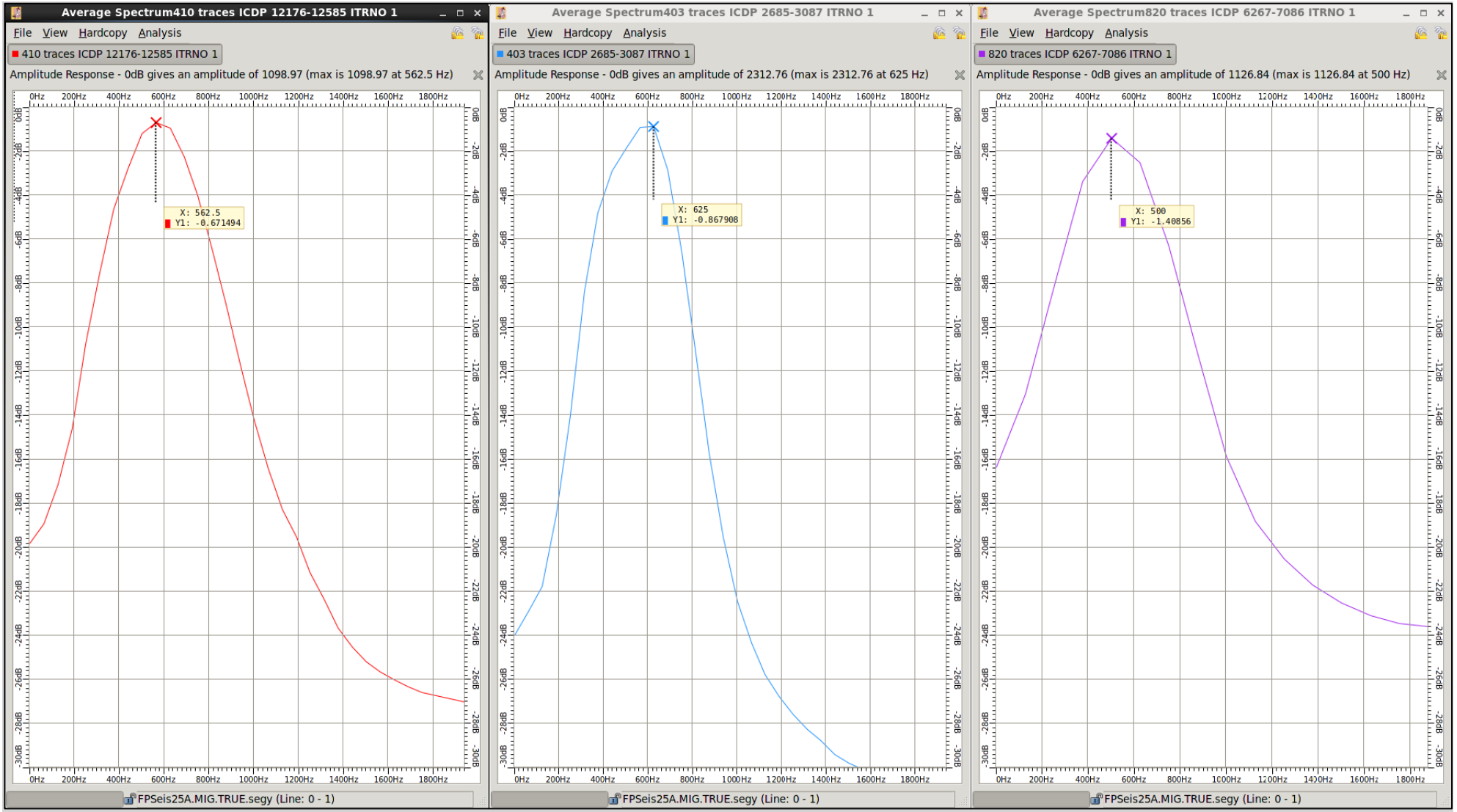


Figure 5.6: Average frequency spectrum for the vertical and horizontal resolution calculations

6. HEALTH, SAFETY & ENVIRONMENT

A vessel safety tour and meeting were performed for all new members of the marine and survey crew on both vessels prior to the start of the survey and following each crew change.

A daily vessel coordination meeting was held onboard between the vessel master, the survey party chief and the offshore client representative. The meeting was used to discuss the previous 24 hours' operations, planned operations, the current and expected weather and sea state conditions and other safety related matters, including toolbox talks and Permits to Work.

Toolbox talks were performed ahead of all back deck operations.

One (1) incident occurred on 13 March 2016 onboard MV Fugro Pioneer. At 23:53 (UTC+1) during a shift handover, the SSS and G-882 magnetometer were recovered to a short cable for a line turn. The cable was pulled in too far and the SSS was pulled into the tow block. This resulted in the snagging of the tow shackle in the tow block and the loss of the USBL positioning beacon (C-node), and damage to the MacArtney tow block. Refer to Appendix 0 for more details.

APPENDICES

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B. DAILY OPERATIONS REPORTS

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C. INCIDENT REPORTS

A. CALIBRATIONS AND VERIFICATIONS

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A.1 POSITIONING SYSTEM VERIFICATION MV FUGRO PIONEER

(1 page, not numbered)

FO-102 DGPS VERIFICATION

Project: **RVO Hollandse Kust OWF**

Vessel : Fugro Pioneer **Project No. : GH176**
Location : Scheveningen **Date : 08/ Mar/2016**
Positioning System : DGPS3 G2+

		Easting (m)	Northing (m)
Survey Control Station ID :	S18A	586,478.220	5,772,836.451
Reference Object RO1 :	S1A	586,436.242	5,772,821.171
Reference Object RO2 :	S2A	586,519.077	5,772,816.188

Point Scale Factor : 0.999692 (Grid distance = spheroidal distance * scale factor)
Convergence : 0.996051° (Grid bearing = azimuth - convergence) **care with sign convention

Observations to : DGPS3 G2+ Antenna

Results Summary :

	C-O	
	dE m	**dN m**
S.D.	0.01	0.02
Mean	-0.03	0.03

Notes:

Datum	ETRS89	Datum Shifts	dX (m)	0.05372	rX (")	-0.002204
Projection	UTM31	(WGS84 to local)	dY (m)	0.05092	rY (")	-0.013333
CM	3°E		dZ (m)	-0.08768	rZ (")	0.021551
Hemisphere	North				Scale (ppm)	0.002637

Comments:

For Fugro **For Client**

T.Harrison A.Fleet

A.2 POSITIONING SYSTEM VERIFICATION MV VICTOR HENSEN

(2 pages, not numbered)

FO-102 DGPS VERIFICATION

Project:

Vessel : MV Victor Hensen | **Project No. : GH176**
Location : Rotterdam | **Date : 17/ Mar/2016**
Positioning System : G2

		Easting (m)	Northing (m)
Survey Control Station ID :	STN1	594,807.457	5,751,375.363
Reference Object RO1 :	STN2	594,808.131	5,751,331.724
Reference Object RO2 :			

Point Scale Factor : (Grid distance = spheroidal distance * scale factor)
Convergence : (Grid bearing = azimuth - convergence) **care with sign convention

Observations to : Port Antenna

Results Summary :

	C-O	
	dE m	**dN m**
S.D.	0.05	0.07
Mean	0.00	-0.02

Notes:

Datum	ETRS89	Datum Shifts (WGS84 to local)	dX (m)	0.05372	rX (")	-0.002204
Projection	UTM31		dY (m)	0.05092	rY (")	-0.013333
CM	3° E		dZ (m)	-0.08768	rZ (")	0.021551
Hemisphere	Northern				Scale (ppm)	0.002637

Comments:

For Fugro | **For Client**

L. de Haan | P. Kitlowski

FO-102 DGPS VERIFICATION

Project:

Vessel : MV Victor Hensen | **Project No. : GH176**
Location : Rotterdam | **Date : 17/ Mar/2016**
Positioning System : G2

		Easting (m)	Northing (m)
Survey Control Station ID :	STN1	594,807.457	5,751,375.363
Reference Object RO1 :	STN2	594,808.131	5,751,331.724
Reference Object RO2 :			

Point Scale Factor : (Grid distance = spheroidal distance * scale factor)
Convergence : (Grid bearing = azimuth - convergence) **care with sign convention

Observations to : Stbd Antenna

Results Summary :

	C-O	
	dE m	**dN m**
S.D.	0.03	0.02
Mean	-0.02	0.02

Notes:

Datum	ETRS89	Datum Shifts (WGS84 to local)	dX (m)	0.05372	rX (")	-0.002204
Projection	UTM31		dY (m)	0.05092	rY (")	-0.013333
CM	3° E		dZ (m)	-0.08768	rZ (")	0.021551
Hemisphere	Northern				Scale (ppm)	0.002637

Comments:

For Fugro | **For Client**

L. de Haan | P. Kitlowski

A.3 POSITIONING SYSTEM COMPARISON MV FUGRO PIONEER

(2 pages, not numbered)

POSITIONING SYSTEM COMPARISON

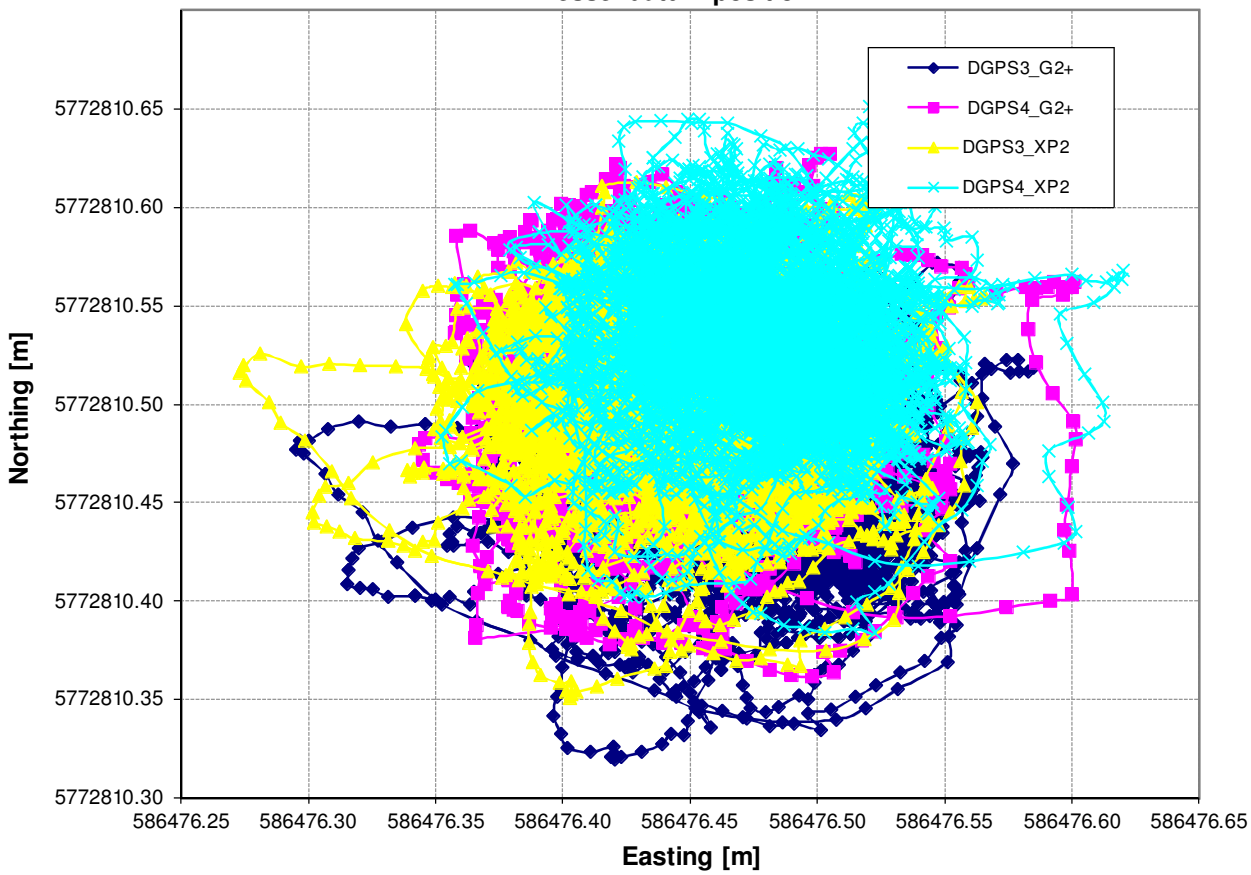
RVO
OWF Survey

Project no: GH176
Date: 8 Mar 2016
Vessel: Fugro Pioneer
Start time: 12:37:35
Location: Scheveningen
Stop time: 14:55:02

Antenna offset			
No.	**System name**	**X**	**Y**
1	DGPS3_G2+	3.18	4.26
2	DGPS4_G2+	-3.16	5.09
3	DGPS3_XP2	3.18	4.26
4	DGPS4_XP2	-3.16	5.09

Geodesy	
Datum	ETRS89
Projection	UTM31
CM	3°E
Hemisphere	North

Vessel datum position



	Comparison DGPS3_G2+ / DGPS4_G2		Comparison DGPS3_G2+ / DGPS3_XP		Comparison DGPS3_G2+ / DGPS4_XP	
	dE [m]	dN [m]	dE [m]	dN [m]	dE [m]	dN [m]
Mean	0.04	-0.08	0.03	0.05	0.05	-0.01
S.D.	0.03	0.04	0.04	0.06	0.03	0.06
	Comparison DGPS4_G2+ / DGPS3_XP		**Comparison DGPS4_G2+ / DGPS4_XP**		**Comparison DGPS3_XP2 / DGPS4_XP2**	
	dE [m]	dN [m]	dE [m]	dN [m]	dE [m]	dN [m]
Mean	-0.01	0.12	0.01	0.06	0.02	-0.06
S.D.	0.05	0.06	0.02	0.04	0.04	0.04

For Fugro Survey B.V.

T.Harrison

For Client

A.Fleet

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POSITIONING SYSTEM COMPARISON

RVO
OWF Survey

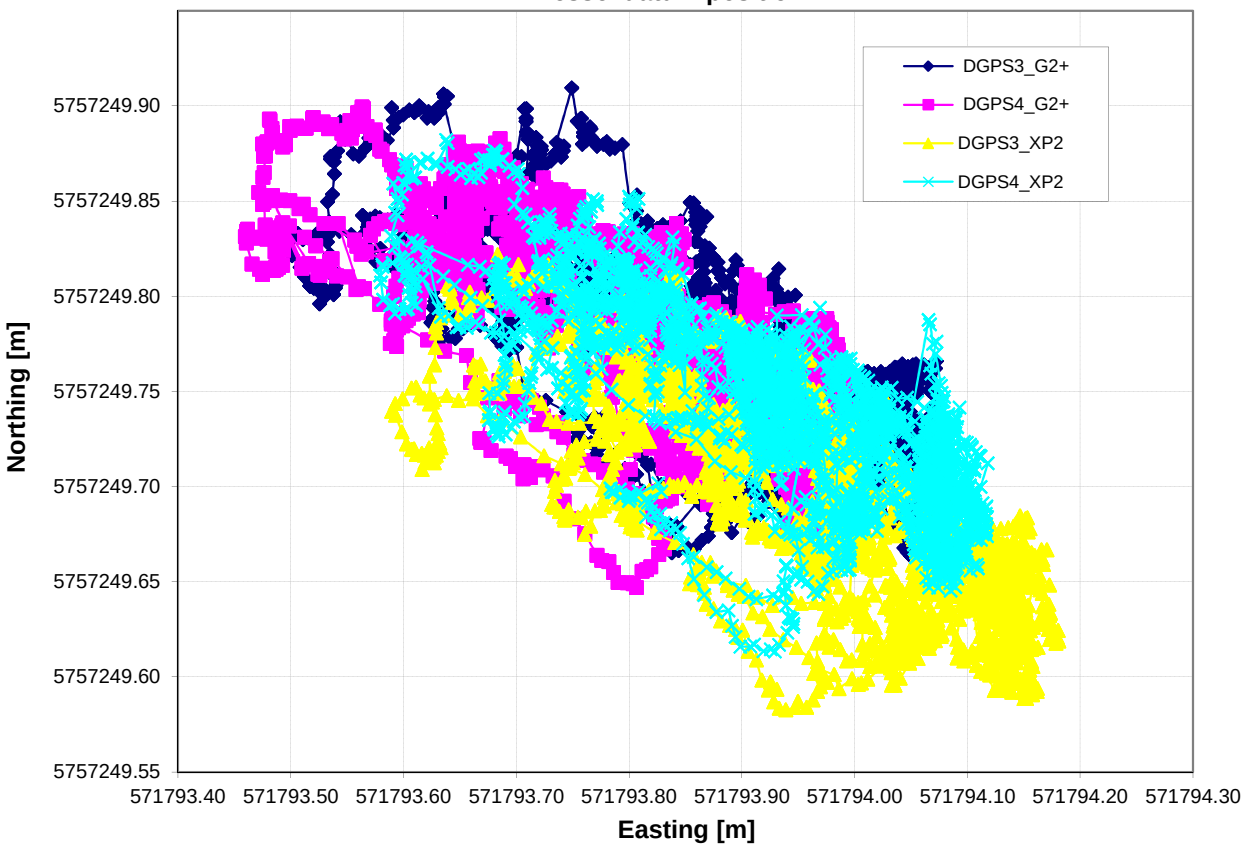
Project no: GH176
Date: 27 Mar 2016
Start time: 19:09:22
Stop time: 19:58:05

Vessel: Fugro Pioneer
Location: Scheveningen

Antenna offset			
No.	**System name**	**X**	**Y**
1	DGPS3_G2+	3.18	4.26
2	DGPS4_G2+	-3.16	5.09
3	DGPS3_XP2	3.18	4.26
4	DGPS4_XP2	-3.16	5.09

Geodesy	
Datum	ETRS89
Projection	UTM31
CM	3°E
Hemisphere	North

Vessel datum position



	Comparison DGPS3_G2+ / DGPS4_G2		**Comparison DGPS3_G2+ / DGPS3_XP**		**Comparison DGPS3_G2+ / DGPS4_XP2**	
	dE [m]	dN [m]	dE [m]	dN [m]	dE [m]	dN [m]
Mean	-0.07	0.01	0.10	-0.09	0.05	-0.03
S.D.	0.02	0.02	0.01	0.01	0.02	0.02
	Comparison DGPS4_G2+ / DGPS3_XP		**Comparison DGPS4_G2+ / DGPS4_XP**		**Comparison DGPS3_XP2 / DGPS4_XP2**	
	dE [m]	dN [m]	dE [m]	dN [m]	dE [m]	dN [m]
Mean	0.17	-0.09	0.11	-0.04	-0.05	0.06
S.D.	0.02	0.02	0.02	0.01	0.01	0.02

For Fugro Survey B.V.

T.Harrison

For Client

A.Fleet

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A.4 POSITIONING SYSTEM COMPARISON MV VICTOR HENSEN

(2 pages, not numbered)

FUGRO SURVEY B.V.
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P.O. Box 128 E-mail : info@fugro-survey.nl
2260 AC Leidschendam, The Netherlands
Trade Register Number: 34070322 / VAT Number: NL005621409B11

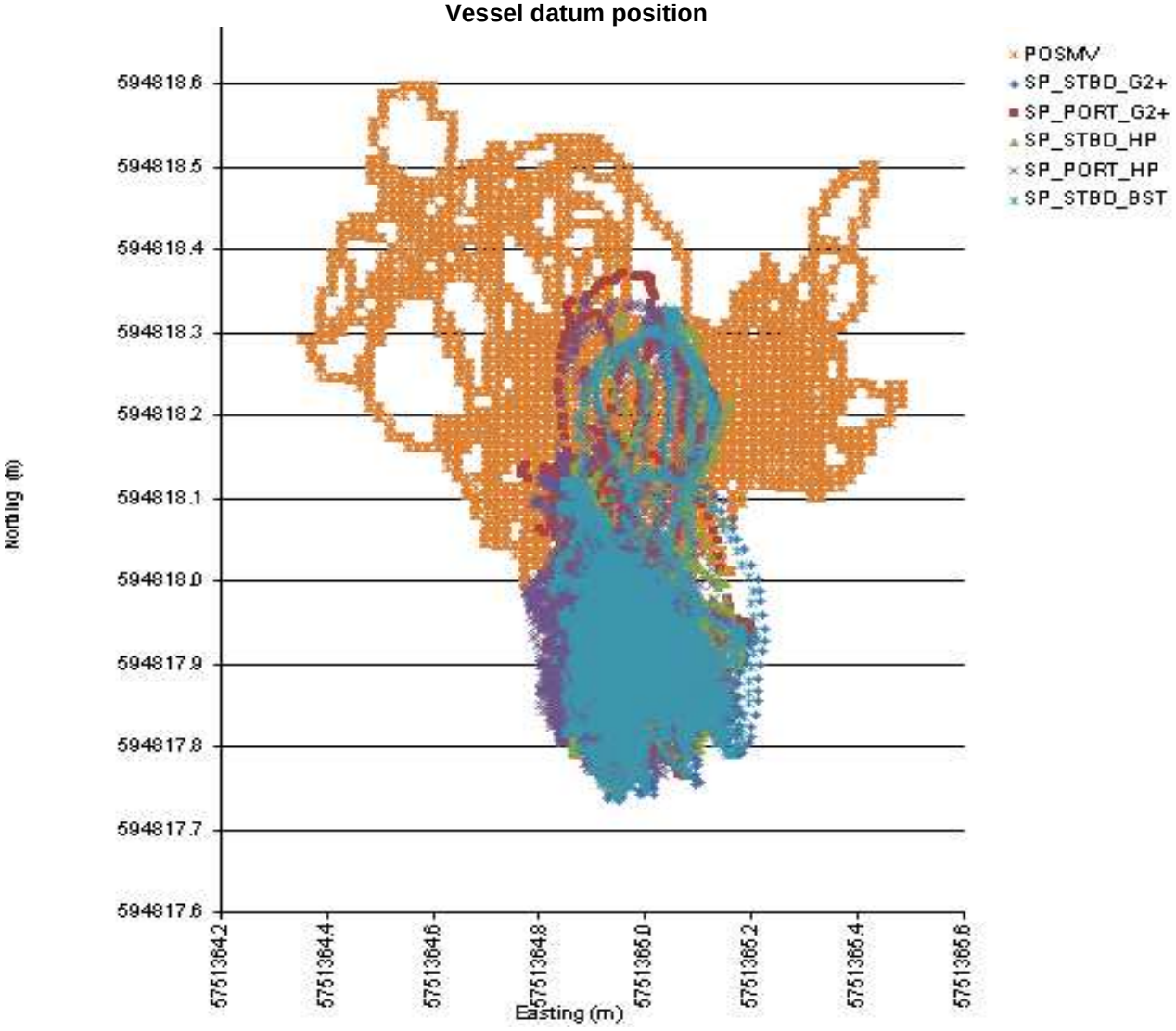
Positioning System Comparison Report

Subject	Positioning System Comparison		
Date	21-03-2016	**Page**	1 of 2
To	P.P. Lebbink	**File**	GH176_GPS_Comparison_VictorHensen
Attn		**E-mail Address**	
Copy		**E-mail Address**	
Copy		**E-mail Address**	
From	L. De Haan	**E-mail Address**	fsbvfieldops15@fugro.com

Vessel: MV Victor Hensen
Location: Rotterdam

Geodesy
Datum: ETRS89
Projection: UTM31N
CM: 3° E
Hemisphere: Northern

Vessel datum position



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2260 AC Leidschendam, The Netherlands
Trade Register Number: 34070322 / VAT Number: NL005621409B11

	SP_STBD_G2+_CRP		SP_STBD_HP_CRP		SP_PORT_G2+_CRP		SP_PORT_HP_CRP		SP_STBD_BST_CRP		SP_PORT_BST_CRP		POSMV_CRP	
	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)
Min	594817.74	5751364.83	594817.75	5751364.81	594817.76	5751364.77	594817.75	5751364.78	594817.74	5751364.82	594817.77	5751364.78	594818.00	5751364.35
Max	594818.32	5751365.23	594818.33	5751365.18	594818.37	5751365.20	594818.34	5751365.16	594818.33	5751365.21	594818.36	5751365.18	594818.60	5751365.48
Average	594817.92	5751365.00	594817.93	5751364.98	594817.95	5751364.97	594817.94	5751364.94	594817.92	5751364.99	594817.95	5751364.96	594818.24	5751364.96
StDev	0.08	0.06	0.08	0.08	0.08	0.06	0.08	0.07	0.08	0.06	0.08	0.06	0.11	0.24

	SP_STBD_G2+_CRP		SP_STBD_HP_CRP		SP_PORT_G2+_CRP		SP_PORT_HP_CRP		SP_STBD_BST_CRP		SP_PORT_BST_CRP		POSMV_CRP	
	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Easting (m)	Northing (m)
SP_STBD_G2+_CRP			0.02	-0.02	0.03	-0.03	0.02	-0.05	0.00	-0.01	0.03	-0.04	-0.32	0.04
SP_STBD_HP_CRP	-0.02	0.02			0.01	-0.01	0.00	-0.03	-0.01	-0.02	0.02	-0.02	0.30	-0.02
SP_PORT_G2+_CRP	-0.03	0.03	-0.01	0.01			-0.01	-0.02	-0.03	0.02	0.00	-0.01	0.29	-0.01
SP_PORT_HP_CRP	-0.02	0.05	0.00	0.03	0.01	0.02			-0.02	0.04	0.01	0.01	0.30	0.02
SP_STBD_BST_CRP	0.00	0.01	0.01	-0.01	0.03	-0.02	0.02	-0.04			0.03	-0.03	0.32	-0.03
SP_PORT_BST_CRP	-0.03	0.04	-0.02	0.02	0.00	0.01	-0.01	-0.01	-0.03	0.03			0.29	0.01
POSMV_CRP	-0.04	-0.17	0.08	0.08	0.08	0.06	0.08	0.07	0.08	0.06	0.08	0.06		

Signed:			
	L. De Haan		P. Kitlowski
	Party Chief		Client Representative
	(Fugro)		(RVO)

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A.5 GYROCOMPASS ALIGNMENT CHECK MV FUGRO PIONEER

(4 pages, not numbered)

GYRO CALIBRATION FROM SUN OBSERVATIONS

GH176

Project no: GH176
Vessel: Fugro Pioneer

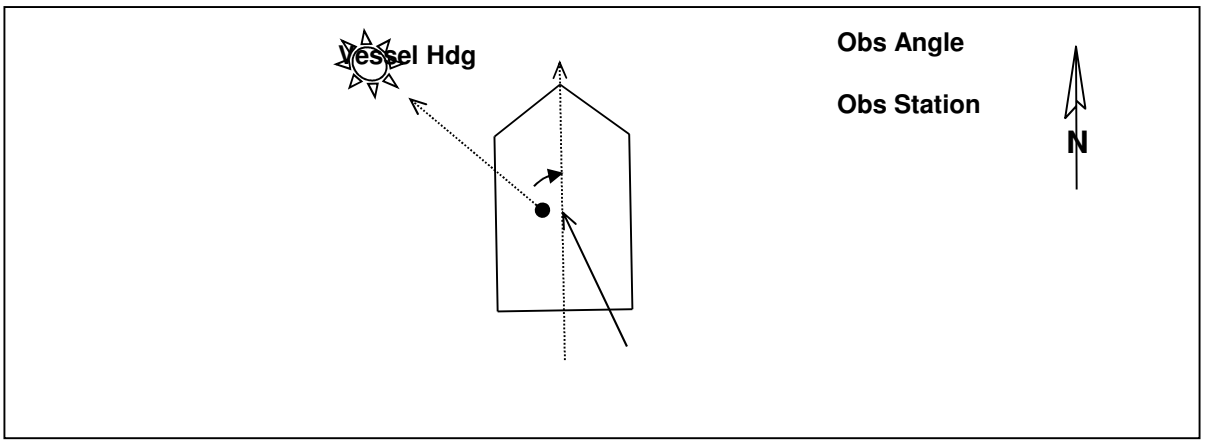
Position : 52° 05' 56.7"
004° 15' 44.9"

Obs. vessel north		
Deg	Min	Sec
0	0	0

Gyro name: Hydrins
Date : 07-Mar-16

Location : Scheveningen
Datum : ETRS89
Projection : UTM 31N
CM : 3
Hemisphere : North

Fix	UTC	Observed Sun			Calc Sun Azimuth			Obs. Gyro	Calc. Vessel	C-O
No.	hh:mm:ss	Deg	Min	Sec	Deg	Min	Sec	deg true	deg true	deg
1	10:06:57	234	58	41	149	20	27	274.38	274.36	-0.02
2	10:08:07	235	10	8	149	39	17	274.44	274.49	0.05
3	10:08:25	234	57	24	149	44	9	274.68	274.78	0.10
4	10:09:04	235	26	46	149	54	40	274.31	274.47	0.16
5	10:09:24	235	22	58	150	0	4	274.49	274.62	0.13
6	10:09:40	235	38	38	150	4	23	274.38	274.43	0.05
7	10:09:58	235	44	25	150	9	15	274.4	274.41	0.01
8	10:10:13	235	46	8	150	13	18	274.46	274.45	-0.01
9	10:10:35	235	55	8	150	19	15	274.4	274.40	0.00
10	10:12:00	235	53	10	150	42	17	274.7	274.82	0.12
11	10:12:25	236	14	50	150	51	46	274.44	274.62	0.18
12	10:12:55	236	11	34	150	57	12	274.66	274.76	0.10
13	10:13:28	236	40	23	151	6	10	274.32	274.43	0.11
14	10:13:58	236	29	12	151	14	19	274.62	274.75	0.13
15	10:14:21	236	51	21	151	20	35	274.37	274.49	0.12
16	10:14:40	236	44	8	151	25	45	274.54	274.69	0.15
17	10:15:01	236	57	58	151	31	28	274.49	274.56	0.07
									Average:	0.08
									St. dev.	0.06



For Fugro Survey B.V.

T.Harrison

For Client

A.Fleet

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GYRO CALIBRATION FROM SUN OBSERVATIONS

GH176

Project no: GH176
Vessel: Fugro Pioneer

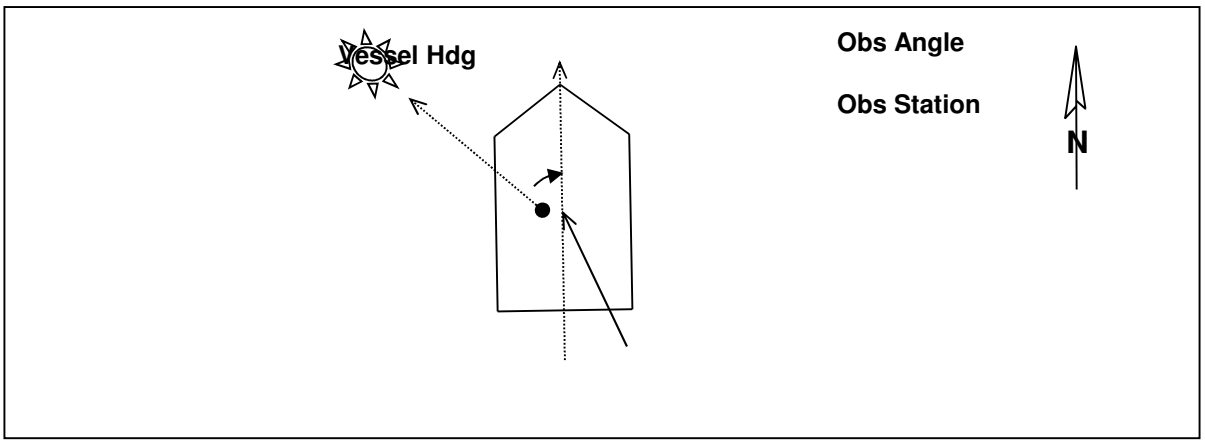
Position : 52° 05' 56.7"
004° 15' 44.9"

Obs. vessel north		
Deg	Min	Sec
0	0	0

Gyro name: Octans
Date : 07-Mar-16

Location : Scheveningen
Datum : ETRS89
Projection : UTM 31N
CM : 3
Hemisphere : North

Fix	UTC	Observed Sun			Calc Sun Azimuth			Obs. Gyro	Calc. Vessel	C-O
No.	hh:mm:ss	Deg	Min	Sec	Deg	Min	Sec	deg true	deg true	deg
1	10:06:57	234	58	41	149	20	27	274.19	274.36	0.17
2	10:08:07	235	10	8	149	39	17	274.24	274.49	0.25
3	10:08:25	234	57	24	149	44	9	274.48	274.78	0.30
4	10:09:04	235	26	46	149	54	40	274.11	274.47	0.36
5	10:09:24	235	22	58	150	0	4	274.29	274.62	0.33
6	10:09:40	235	38	38	150	4	23	274.19	274.43	0.24
7	10:09:58	235	44	25	150	9	15	274.21	274.41	0.20
8	10:10:13	235	46	8	150	13	18	274.27	274.45	0.18
9	10:10:35	235	55	8	150	19	15	274.22	274.40	0.18
10	10:12:00	235	53	10	150	42	17	274.52	274.82	0.30
11	10:12:25	236	14	50	150	51	46	274.25	274.62	0.37
12	10:12:55	236	11	34	150	57	12	274.47	274.76	0.29
13	10:13:28	236	40	23	151	6	10	274.14	274.43	0.29
14	10:13:58	236	29	12	151	14	19	274.45	274.75	0.30
15	10:14:21	236	51	21	151	20	35	274.19	274.49	0.30
16	10:14:40	236	44	8	151	25	45	274.36	274.69	0.33
17	10:15:01	236	57	58	151	31	28	274.31	274.56	0.25
									Average:	0.27
									St. dev.	0.06



For Fugro Survey B.V.

T.Harrison

For Client

A.Fleet

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GYRO CALIBRATION FROM SUN OBSERVATIONS

GH176

Project no: GH176
Vessel: Fugro Pioneer

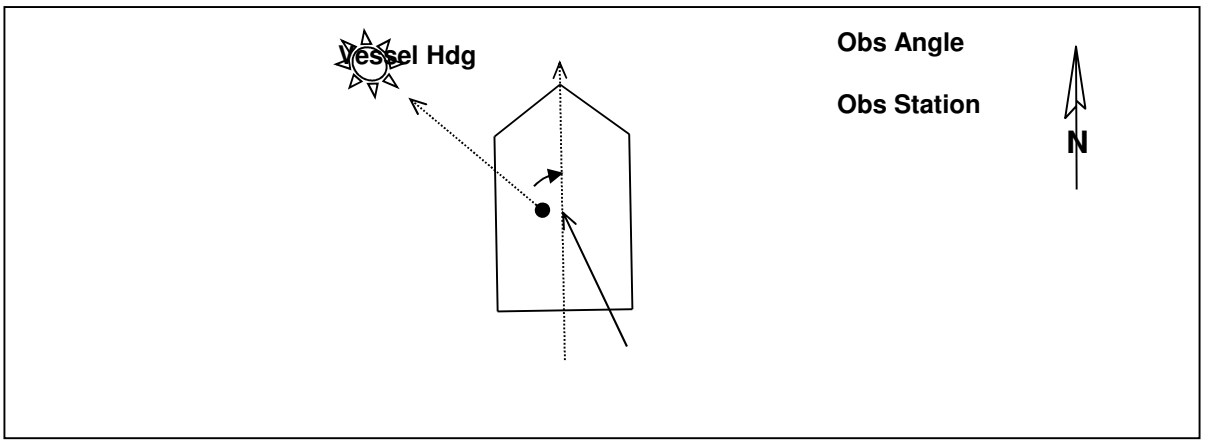
Position : 52° 05' 56.7"
004° 15' 44.9"

Obs. vessel north		
Deg	Min	Sec
0	0	0

Gyro name: Meridian
Date : 07-Mar-16

Location : Scheveningen
Datum : ETRS89
Projection : UTM 31N
CM : 3
Hemisphere : North

Fix	UTC	Observed Sun			Calc Sun Azimuth			Obs. Gyro	Calc. Vessel	C-O
No.	hh:mm:ss	Deg	Min	Sec	Deg	Min	Sec	deg true	deg true	deg
1	10:06:57	234	58	41	149	20	27	274.64	274.36	-0.28
2	10:08:07	235	10	8	149	39	17	274.71	274.49	-0.22
3	10:08:25	234	57	24	149	44	9	274.94	274.78	-0.16
4	10:09:04	235	26	46	149	54	40	274.57	274.47	-0.10
5	10:09:24	235	22	58	150	0	4	274.75	274.62	-0.13
6	10:09:40	235	38	38	150	4	23	274.65	274.43	-0.22
7	10:09:58	235	44	25	150	9	15	274.66	274.41	-0.25
8	10:10:13	235	46	8	150	13	18	274.72	274.45	-0.27
9	10:10:35	235	55	8	150	19	15	274.67	274.40	-0.27
10	10:12:00	235	53	10	150	42	17	274.96	274.82	-0.14
11	10:12:25	236	14	50	150	51	46	274.71	274.62	-0.09
12	10:12:55	236	11	34	150	57	12	274.92	274.76	-0.16
13	10:13:28	236	40	23	151	6	10	274.57	274.43	-0.14
14	10:13:58	236	29	12	151	14	19	274.89	274.75	-0.14
15	10:14:21	236	51	21	151	20	35	274.63	274.49	-0.14
16	10:14:40	236	44	8	151	25	45	274.81	274.69	-0.12
17	10:15:01	236	57	58	151	31	28	274.75	274.56	-0.19
									Average:	-0.18
									St. dev.	0.06



For Fugro Survey B.V.

T.Harrison

For Client

A.Fleet

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GYRO CALIBRATION FROM SUN OBSERVATIONS

GH176

Project no: GH176
Vessel: Fugro Pioneer

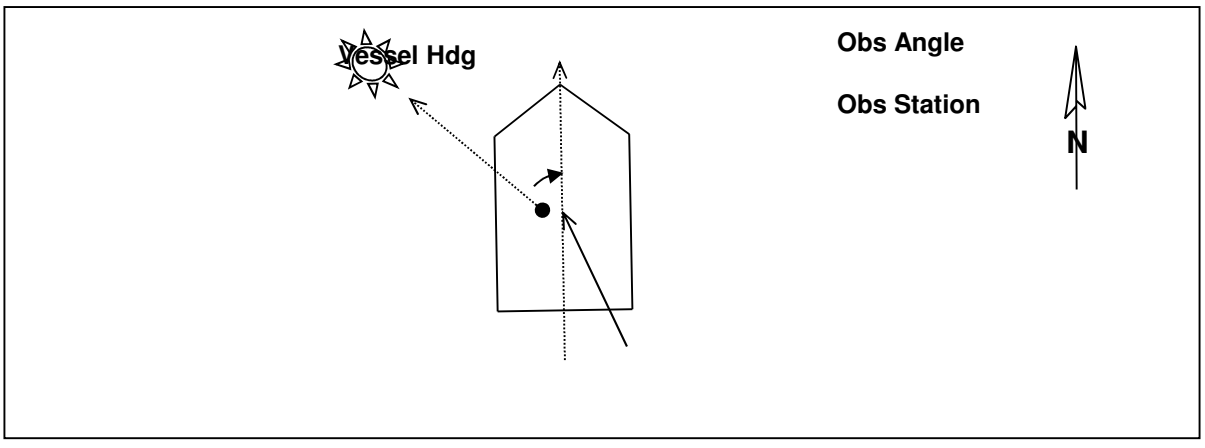
Position : 52° 05' 56.7"
004° 15' 44.9"

Obs. vessel north		
Deg	Min	Sec
0	0	0

Gyro name: DGPS Heading
Date : 07-Mar-16

Location : Scheveningen
Datum : ETRS89
Projection : UTM 31N
CM : 3
Hemisphere : North

Fix No.	UTC hh:mm:ss	Observed Sun Deg	Min	Sec	Calc Sun Azimuth Deg	Min	Sec	Obs. Gyro deg true	Calc. Vessel deg true	C-O deg
1	10:06:57	234	58	41	149	20	27	274.64	274.36	-0.28
2	10:08:07	235	10	8	149	39	17	274.67	274.49	-0.18
3	10:08:25	234	57	24	149	44	9	274.98	274.78	-0.20
4	10:09:04	235	26	46	149	54	40	274.54	274.47	-0.07
5	10:09:24	235	22	58	150	0	4	274.76	274.62	-0.14
6	10:09:40	235	38	38	150	4	23	274.63	274.43	-0.20
7	10:09:58	235	44	25	150	9	15	274.62	274.41	-0.21
8	10:10:13	235	46	8	150	13	18	274.68	274.45	-0.23
9	10:10:35	235	55	8	150	19	15	274.54	274.40	-0.14
10	10:12:00	235	53	10	150	42	17	274.92	274.82	-0.10
11	10:12:25	236	14	50	150	51	46	274.68	274.62	-0.06
12	10:12:55	236	11	34	150	57	12	274.94	274.76	-0.18
13	10:13:28	236	40	23	151	6	10	274.6	274.43	-0.17
14	10:13:58	236	29	12	151	14	19	274.86	274.75	-0.11
15	10:14:21	236	51	21	151	20	35	274.62	274.49	-0.13
16	10:14:40	236	44	8	151	25	45	274.87	274.69	-0.18
17	10:15:01	236	57	58	151	31	28	274.71	274.56	-0.15
									Average:	-0.16
									St. dev.	0.06



For Fugro Survey B.V.

T.Harrison

For Client

A.Fleet

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A.6 GYROCOMPASS ALIGNMENT CHECK MV VICTOR HENSEN

(2 pages, not numbered)

GYRO CALIBRATION FROM TAPED OFFSETS

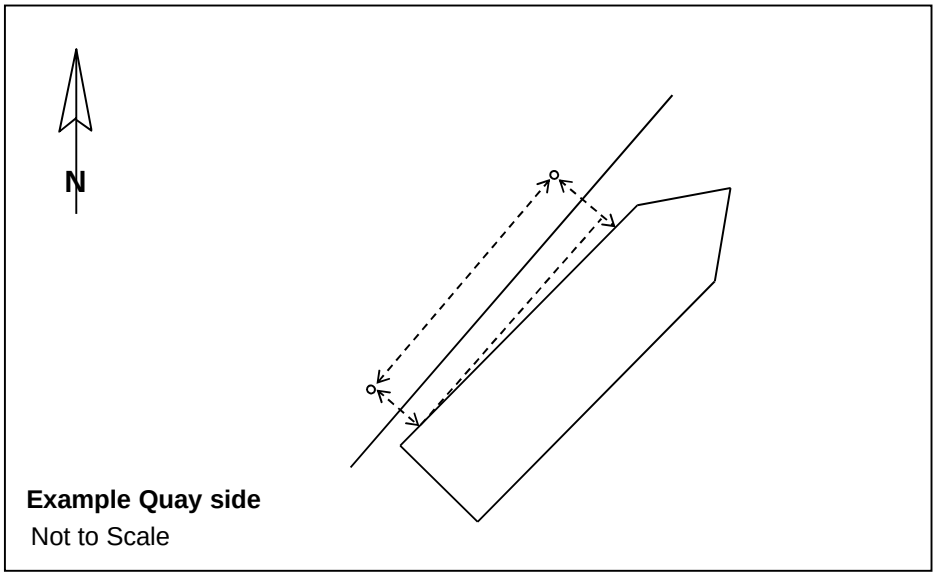
Project no : GH176 **Gyro name :** POSMV
Vessel : MV Victor Hensen **Date :** 18 Mar 2016

Bow	P2	594815.19 E	**Stern**	P1	594812.85 E	**Dist**	13.51
Quay Pt.		5751351.80 N	**Quay Pt.**		5751365.10 N	**Bearing**	170.04

Observed Gyro	163.95°
Calc.Bearing(G)	161.94°
Convergence	1.08°
Jetty position	STBD
Calc.Heading(T)	163.03°
Gyro C-O	**-0.92°**

Notes:

Location:	Rotterdam
Datum	ETRS89
Projection	UTM 31N
CM	3° E
Hemisphere	North
False Easting	500000



Example Quay side
Not to Scale

Logged Gyro Readings and Measurements					Calculations				
Fix no.	**UTC hh:mm:ss**	**Gyro (º)**	**Bow Pt dist (m)**	**Stern Pt dist (m)**	**Dist m**	**Angle Ship to Quay (º)**	**Calc Ves Grid (º)**	**Calc Ves True (º)**	**Gyro C-O (º)**
1	13:27:05	163.6	2.80	0.83	13.51	-8.32	161.72	162.80	-0.75
2	13:27:35	164.1	2.81	0.93	13.51	-7.94	162.09	163.18	-0.95
3	13:28:00	164.5	2.79	1.01	13.51	-7.51	162.53	163.61	-0.92
4	13:29:00	164.2	2.80	0.92	13.51	-7.91	162.12	163.21	-0.97
5	13:29:35	164.1	2.80	0.92	13.51	-7.92	162.11	163.20	-0.92
6	13:30:00	164.1	2.80	0.91	13.51	-7.95	162.09	163.17	-0.97
7	13:30:35	163.7	2.81	0.84	13.51	-8.32	161.72	162.80	-0.90
8	13:31:00	163.7	2.82	0.81	13.51	-8.46	161.57	162.66	-1.05
9	13:31:35	163.9	2.81	0.85	13.51	-8.27	161.77	162.86	-1.06
10	13:32:05	163.9	2.81	0.86	13.51	-8.25	161.78	162.87	-1.05
11	13:33:35	163.2	2.84	0.78	13.51	-8.65	161.39	162.47	-0.68
12	13:34:05	164.3	2.81	1.00	13.51	-7.63	162.40	163.49	-0.83

For Fugro Survey B.V.

L. de Haan

For Client

P. Kitlowski

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GYRO CALIBRATION FROM TAPED OFFSETS

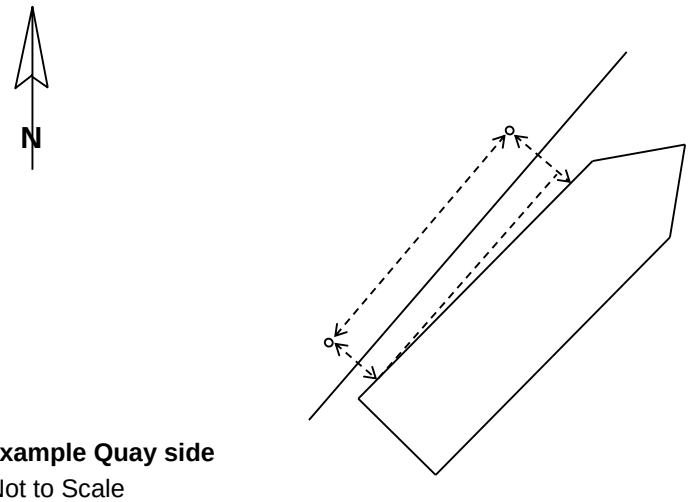
Project no : GH176 **Gyro name :** ProTrack
Vessel : MV Victor Hensen **Date :** 18 Mar 2016

Bow	P2	594815.19 E	**Stern**	P1	594812.85 E	**Dist**	13.51
Quay Pt.		5751351.80 N	**Quay Pt.**		5751365.10 N	**Bearing**	170.04

Observed Gyro	163.85°
Calc.Bearing(G)	161.94°
Convergence	1.08°
Jetty position	STBD
Calc.Heading(T)	163.03°
Gyro C-O	**-0.82°**

Notes:

Location:	Rotterdam
Datum	ETRS89
Projection	UTM 31N
CM	3° E
Hemisphere	North
False Easting	500000



Example Quay side
Not to Scale

Logged Gyro Readings and Measurements					Calculations				
Fix no.	**UTC hh:mm:ss**	**Gyro (º)**	**Bow Pt dist (m)**	**Stern Pt dist (m)**	**Dist m**	**Angle Ship to Quay (º)**	**Calc Ves Grid (º)**	**Calc Ves True (º)**	**Gyro C-O (º)**
1	13:27:05	163.5	2.80	0.83	13.51	-8.32	161.72	162.80	-0.71
2	13:27:35	164.3	2.80	0.93	13.51	-7.90	162.13	163.22	-1.04
3	13:28:00	164.5	2.79	1.01	13.51	-7.51	162.53	163.61	-0.85
4	13:29:00	164.1	2.80	0.92	13.51	-7.91	162.12	163.21	-0.88
5	13:29:35	164.1	2.80	0.92	13.51	-7.92	162.11	163.20	-0.85
6	13:30:00	164.2	2.80	0.91	13.51	-7.95	162.09	163.17	-0.99
7	13:30:35	163.6	2.81	0.84	13.51	-8.32	161.72	162.80	-0.81
8	13:31:00	163.5	2.82	0.81	13.51	-8.46	161.57	162.66	-0.83
9	13:31:35	163.8	2.81	0.85	13.51	-8.27	161.77	162.86	-0.91
10	13:32:05	163.7	2.81	0.86	13.51	-8.25	161.78	162.87	-0.82
11	13:33:35	163.0	2.84	0.78	13.51	-8.65	161.39	162.47	-0.57
12	13:34:05	164.1	2.81	1.00	13.51	-7.63	162.40	163.49	-0.57

For Fugro Survey B.V.

L. de Haan

For Client

P. Kitlowski

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A.7 MULTIBEAM ECHO SOUNDER CALIBRATION MV FUGRO PIONEER

(8 pages, not numbered)

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Preliminary Field Report

Subject	Multibeam Calibration, Fugro Pioneer		
Date	10.03.2016	**Page**	1 of 8
To	P.Lebbink	**File**	GH176 Multibeam Calibration
Attn		**E-mail Address**	
Copy		**E-mail Address**	
Copy		**E-mail Address**	
Copy		**E-mail Address**	
From	T. Harrison	**E-mail Address**	Partychief@pioneer.fugro.com

1. INTRODUCTION

The purpose of the multibeam echo sounder calibration was:

- To determine the accuracy and possible corrections required for the Kongsberg EM 2040, dual head system.

2. SCOPE OF WORK

The calibration comprised of lines run in a traditional ‘patch test’ manner, 3 lines with an offset of 50m and 2 one on top of each other and opposite directions, 1 in double speed and 1 tie line. See Table 1 for the survey line configuration for multibeam corrections.

Table 1: Survey Line Configuration for Multibeam Corrections

Correction	Survey line configuration
System Latency	Two lines run in the same direction at different survey speeds over the feature (3 knots and 6 knots).
Pitch	Two lines run at the same speed in opposite directions over the feature.
Roll	Three lines run at the same speed in opposite directions over a flat seabed
Yaw	Three lines run at the same speed in same direction over the feature

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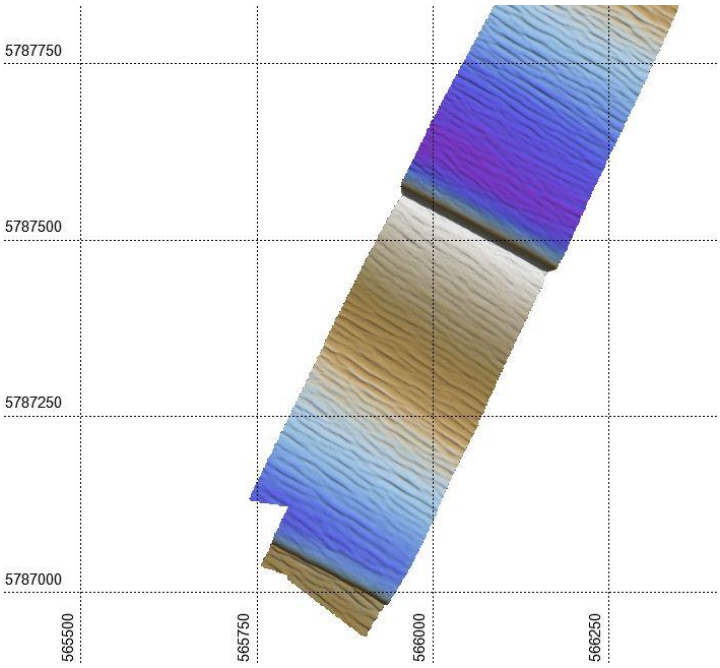

Figure 1: Colour mapped seabed as background

3. OPERATIONS

The calibration was carried out on board the vessel Fugro Pioneer on 10th March 2016 to determine corrections for the multibeam echo sounder acquisition system.

The calibration was conducted on seabed slope above, south of sector III, Hollandse Kust Zuid Windfarm (Dutch Sector, North Sea), at Latitude: 52° 14' 02'' N Longitude: 03° 58' 02'' E (WGS84) in a water depth of 23 metres.

Positioning and Navigation

Kongsberg EM2040
Water Depth Approximately 20 metres
Multibeam Draft 3.50 m
Speed of sound in water at surface 1473.448 m/s from CTD probe
Speed of sound in water at seabed 1474.866m/s from CTD probe
Sound Velocity Probe at head,1473.500 m/s Valeport Mini SVP
Hydrins Gyrocompass and Hydrins Motion Sensor

4. RESULTS

Derived System Corrections		
	Rx PORT	**RX STBD**
Latency	+0.000 sec	+0.000 sec
Pitch	-0.83°	-0.83°
Roll	-0.085°	-0.09°
Yaw	0.05°	0.05°

The Starfix.Surface screen prints below show profiles of the grid data from the alignment calibration lines. The data was corrected for pitch, roll, latency and yaw. The X axis is in metres along the profile and the Y axis is in metres of water depth.

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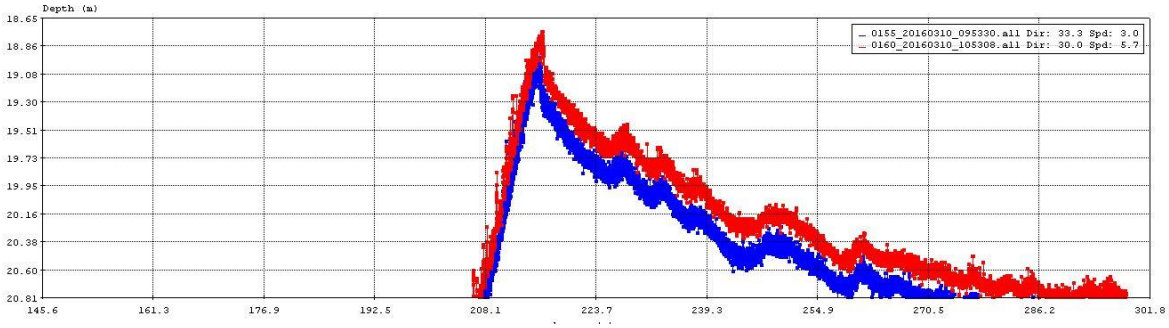

Figure 2: Profile of Latency Lines Uncorrected, Both Heads (Latency = 0 second)

A comparison of the latency profile shows no offset between the two lines run at different speed. The position system used is Starpack unit and no positioning latency was observed.

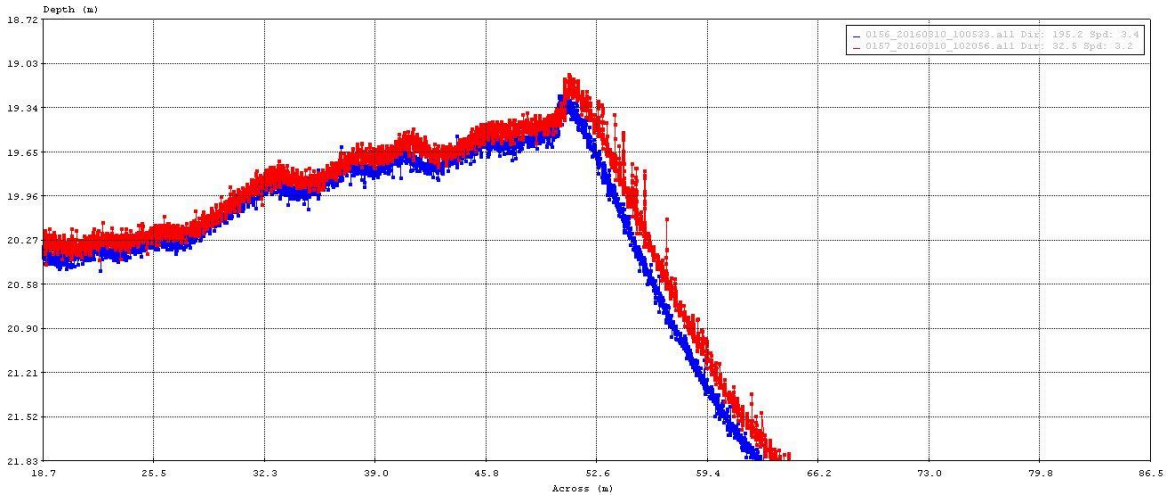

Figure 3: Profile from Pitch Lines Uncorrected, Port Head (Pitch = 0.000°)

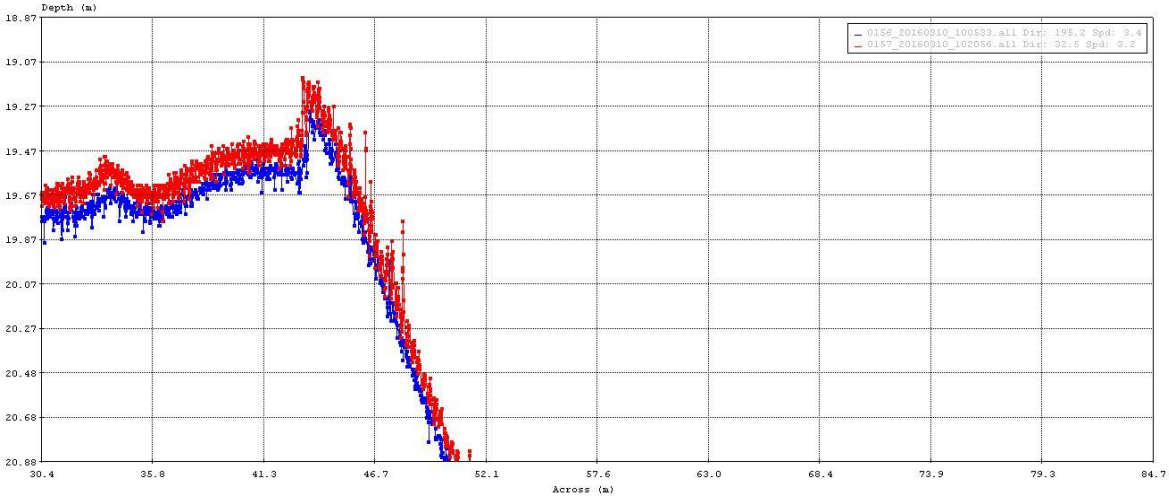

Figure 4 Profile from Pitch Lines Corrected, Port Head (Pitch =- 0.83°)

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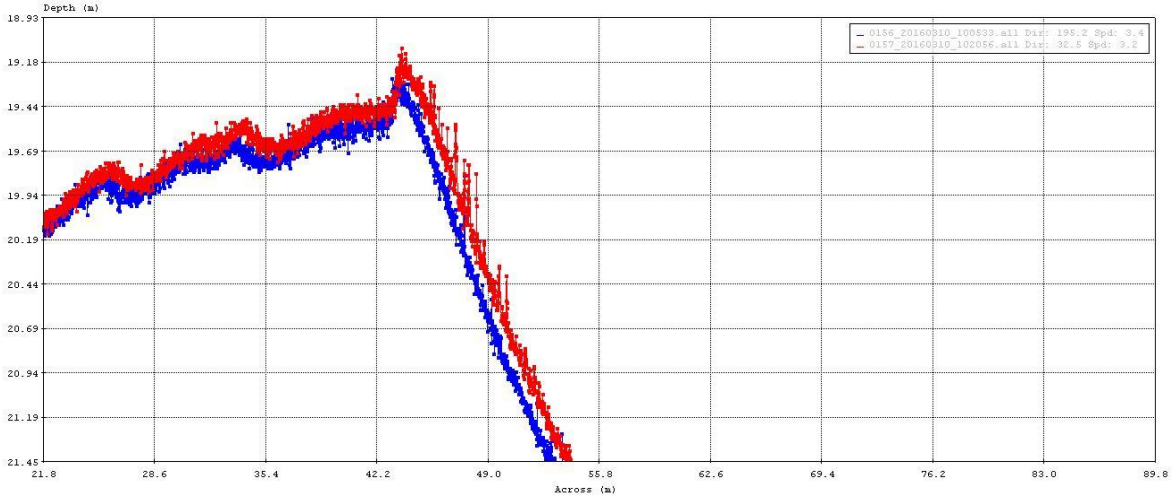

Figure 3: Profile from Pitch Lines Uncorrected, Starboard Head (Pitch = 0.000°)

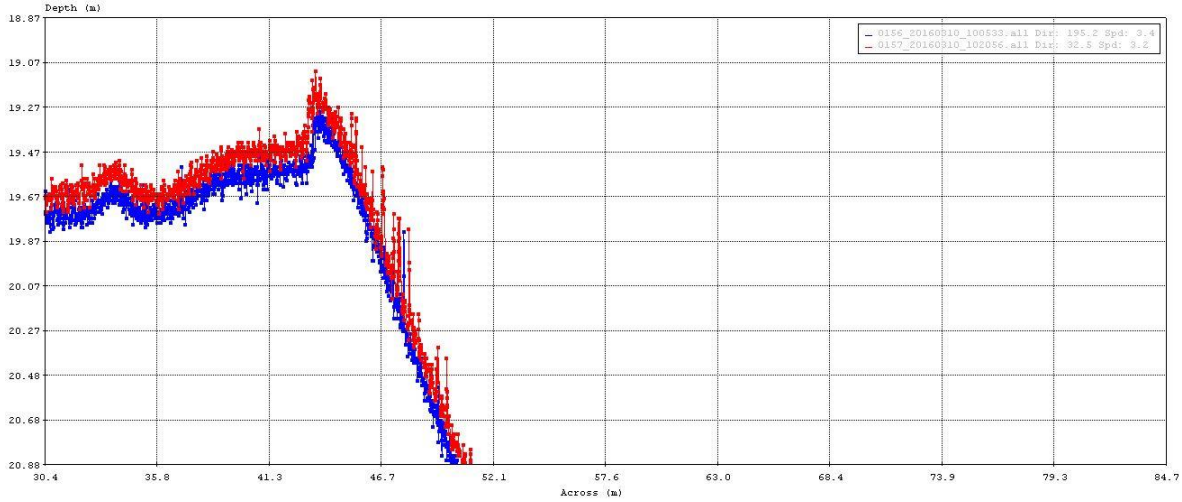

Figure 4: Profile from Pitch Lines Corrected, Starboard Head (Pitch = -0.83°)

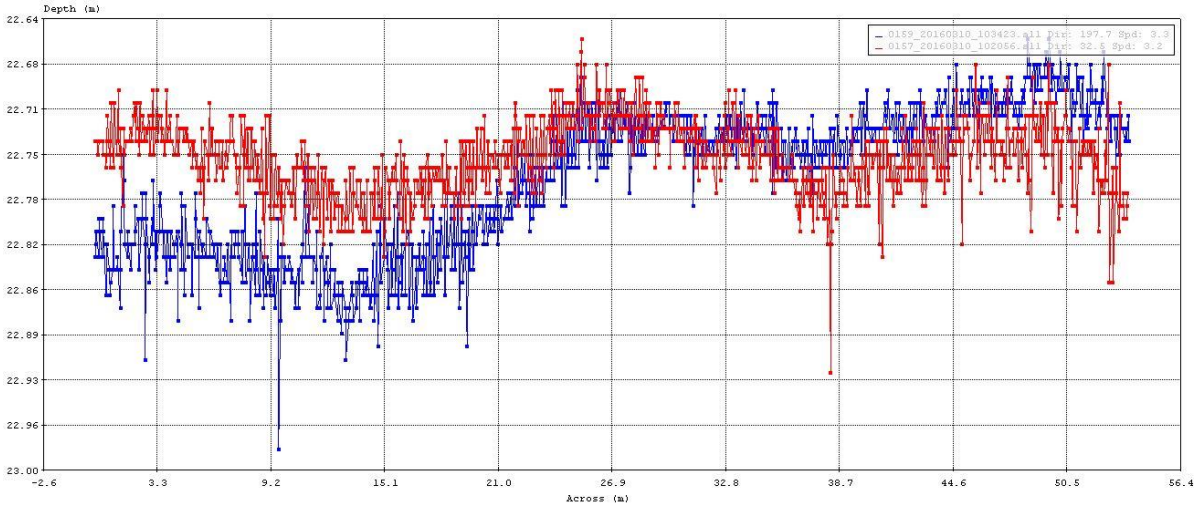

Figure 5: Profile from Roll Lines Uncorrected, Port Head (Roll = 0.000°)

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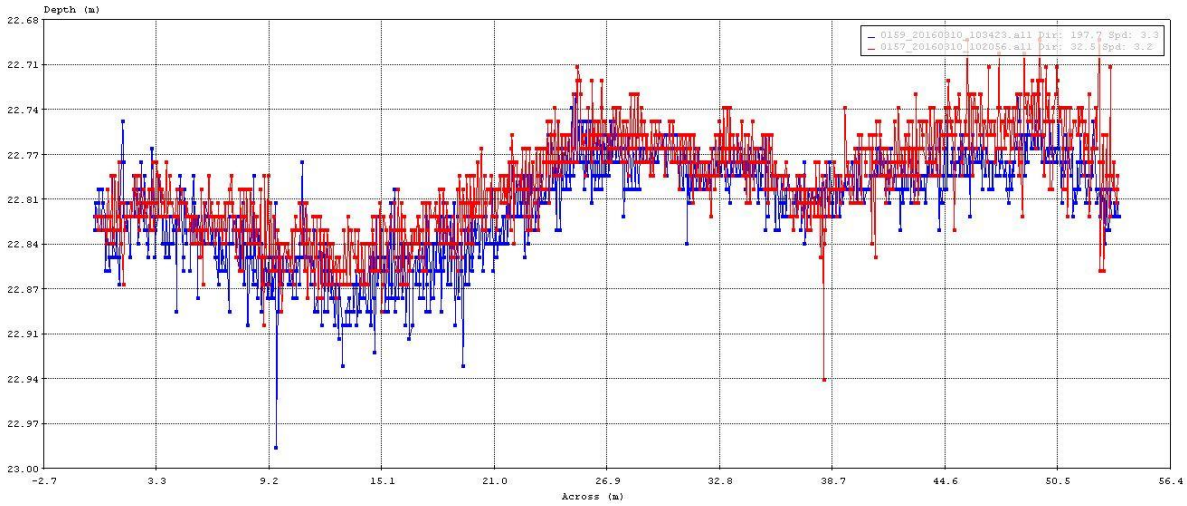

Figure 6: Profile from Roll Lines Corrected, Port Head (Roll -0.085°)

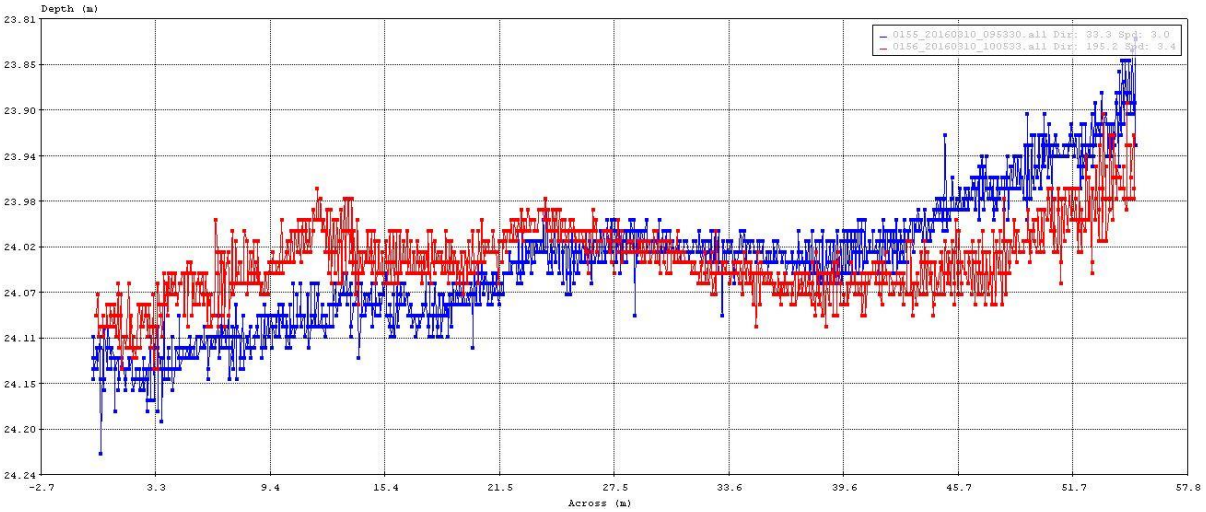

Figure 5: Profile from Roll Lines Uncorrected, Starboard Head (Roll = 0.000°)

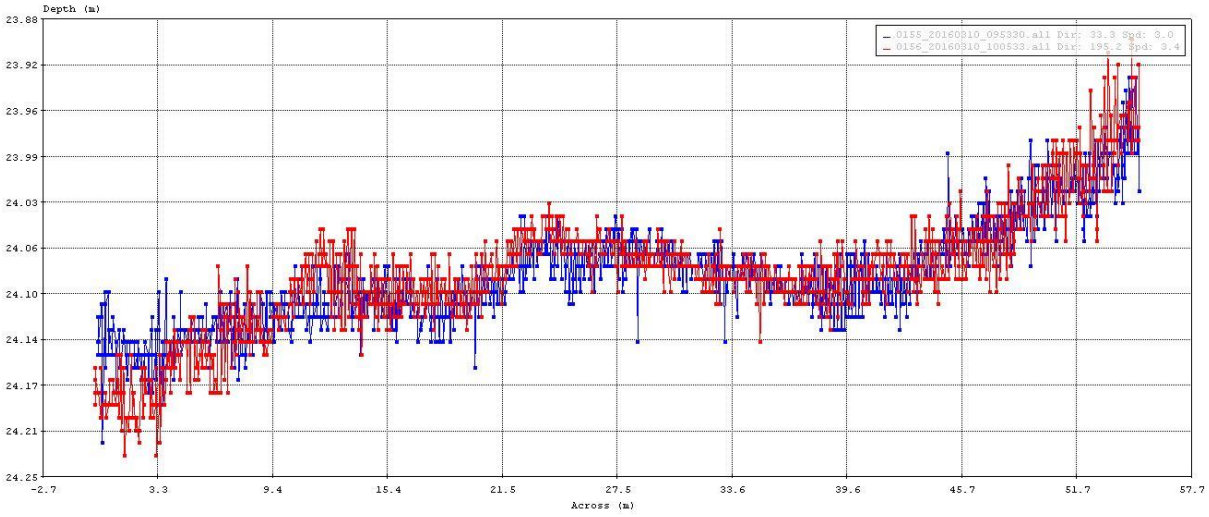

Figure 6: Profile from Roll Lines Corrected, Starboard Head (Roll -0.09°)

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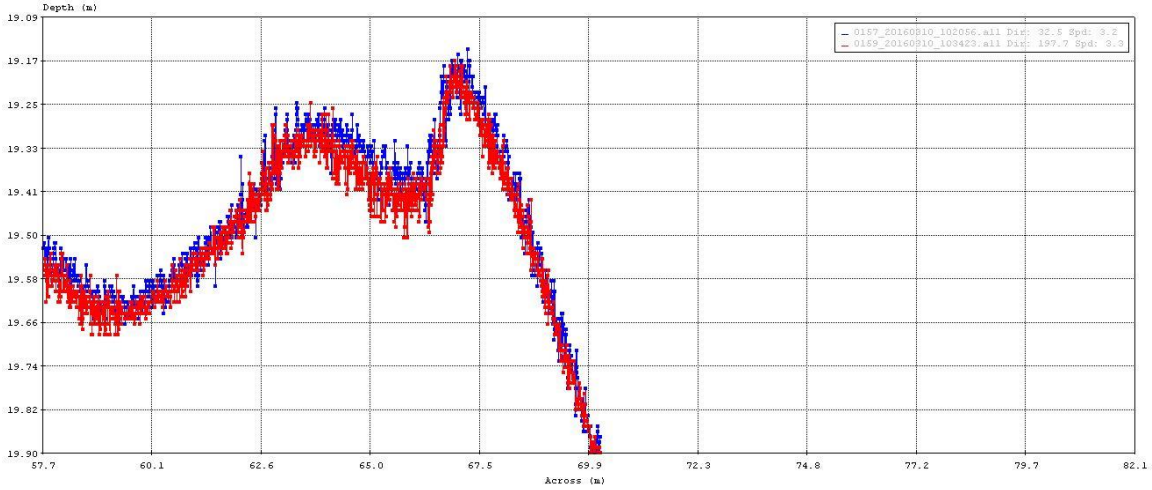

Figure 7: Profile from Yaw Lines Uncorrected, Port Head (Yaw = 0.000°)

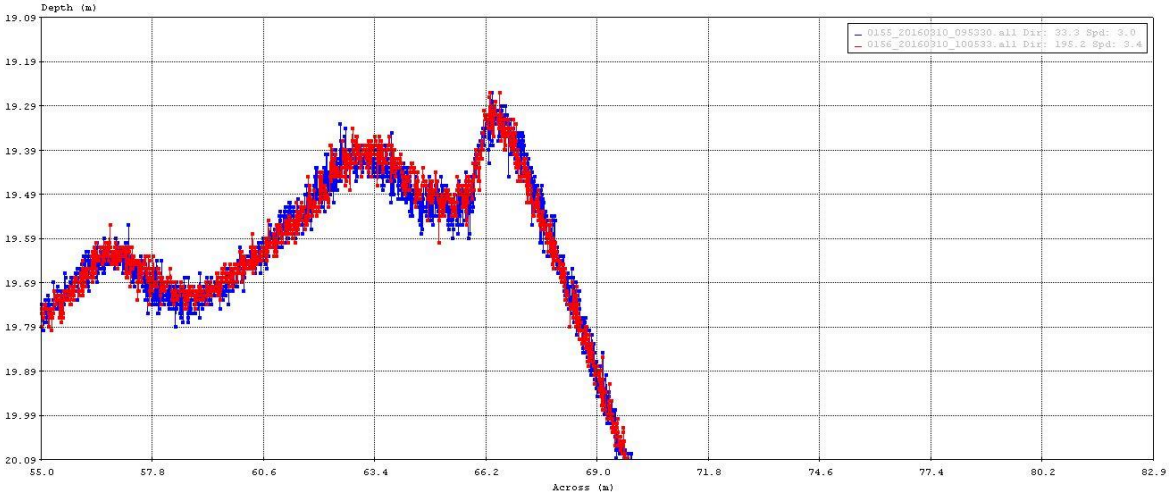

Figure 8: Profile of Yaw Lines Corrected, Port Head (Yaw = 0.050°)

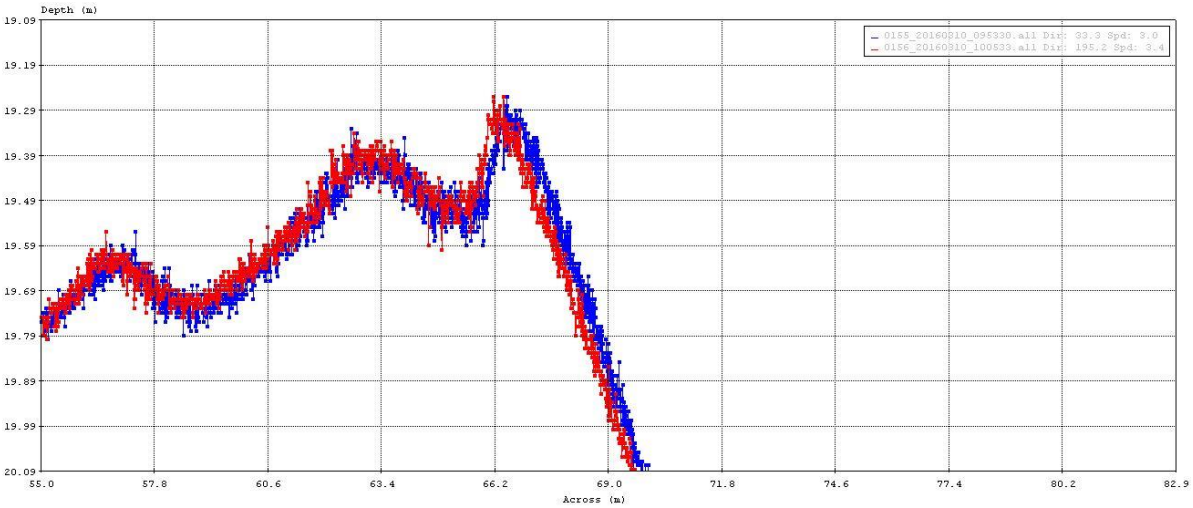

Figure 7: Profile from Yaw Lines Uncorrected (Yaw = 0.000°) Starboard

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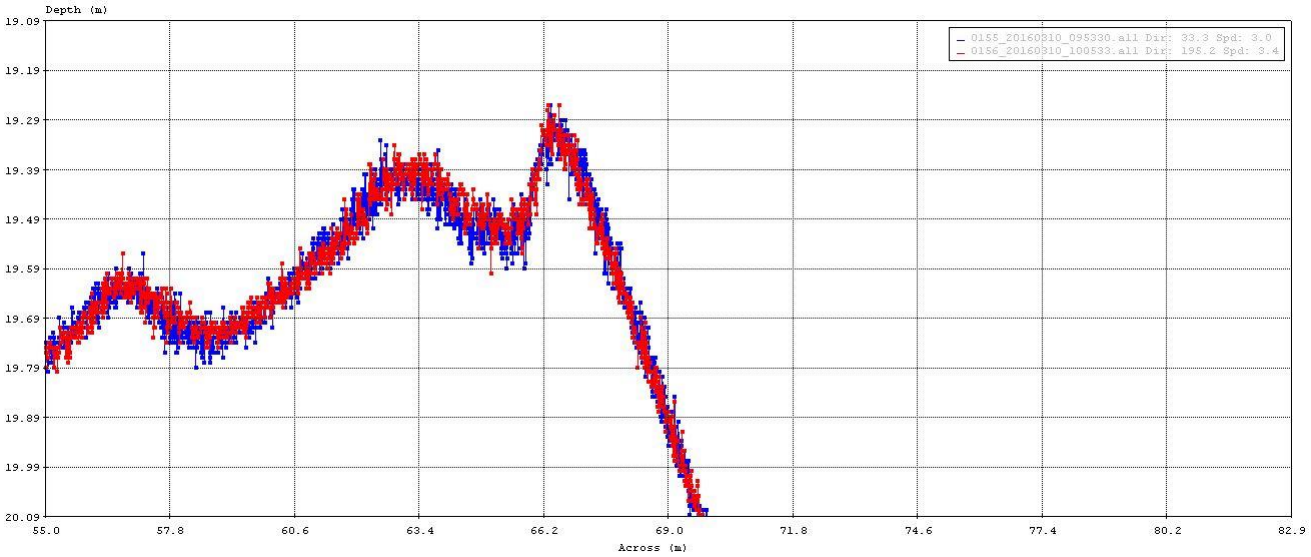

Figure 8: Profile of Yaw Lines Corrected, Starboard Head (Yaw = 0.050°)

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5. CONCLUSIONS

The multibeam system was verified to within the system tolerances as based on the project specification, A cross check of the MBES patch test settings was performed as a Patch test verification.

HSE
No safety or HSE incidents were reported.

Signed:

T. Harrison
Party Chief
(Fugro Survey B.V.)

Alan Fleet
Client Representative
(Rijksdiens Voor Ondernemend Nederland (RVO))

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A.8 ABSOLUTE DEPTH CHECK MV FUGRO PIONEER

(4 pages, not numbered)

Absolute Depth Check, M.V. Fugro Pioneer

Prepared for: Rijksdienst voor Ondernemend Nederland (RVO)
Attn.: R. de Bruijne
Copy: B. de Sonneville
From: P. Lebbink

Netherlands Enterprise Agency

Rev	Project No.	Prepared	Checked	Approved	Date
F	GH176	T. Harrison	J. Chisholm	P. Lebbink	01 April 2016

EXECUTIVE SUMMARY

Absolute Depth Check, M.V. Fugro Pioneer

Introduction

Survey Dates: 26 March 2016
Equipment (Geophysical): Kongsberg EM2040 Dual Head Multibeam echo sounder (MBES)
Coordinate System: Datum: WGS84. Projection: UTM Zone 31N, CM 3°E

Results

The absolute depth check comprised the determination of the depth of the threshold of the Maeslantkering and a comparison with a supplied value for the depth of this feature. MBES data was acquired across the southern threshold of the Maeslantkering and corrected for tides using tide correction from GNSS antenna heights. Reference surface supplied by Rijkswaterstaat (surface dated to 2 February 2016) and all depths are in NAP. The results and tolerances for this depth determination are shown below:

Tide reduction method	Measured Depth (Uncorrected) [m]	Tide Correction [m]	Measured Depth (Corrected) [m]	Supplied Depth [m]	Difference [m]	Tolerance [m]
Tide correction from GNSS antenna heights	15.71	1.04	16.75	16.77	0.02	0.15

Conclusions

The depth accuracy of the Kongsberg EM2040 MBES system onboard the M.V. Fugro Pioneer was shown to meet the IHO 1a standard.

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1. INTRODUCTION

An absolute depth check was required as part of system calibrations ahead of a multibeam echo sounder (MBES) survey to be performed at the RVO Hollandse Kust Zuid OWF locations on the Dutch Continental Shelf.

The purpose of the absolute depth check was to verify that the depth accuracy of the Kongsberg EM2040 dual head system was within IHO 1a standard.

2. SCOPE OF WORK

The absolute depth check comprised three (3) lines run with MBES in the same direction over the southern threshold of the Maeslantkering. The depth derived from the MBES was reduced to Mean Sea Level (MSL), then from MSL to Normaal Amsterdams Peil (NAP) and compared with the actual depth (reduced to NAP) of the southern threshold base data supplied by Rijkswaterstaat (RWS). The derived depth from the RWS surface (dated 2nd of February 2016) at position: 579820E 5756621N (WGS84, UTM 31N) is 16.77 m (NAP).

3. OPERATIONS

The absolute depth check was carried out onboard the vessel M.V. Fugro Pioneer on 26 March 2016 during the RVO Hollandse Kust Zuid OWF survey campaign.

The calibration was conducted on the southern gate of the Maeslantkering (Dutch Sector, North Sea), at Latitude: 51° 57’ 16.4’’ N Longitude: 04° 09’ 41.6’’ E (WGS84) in a water depth of approximately 18 metres.

Positioning and Navigation	MBES system: Kongsberg EM2040
	Water depth: Approximately 18 metres
	Multibeam draft: 3.41 m
	Speed of sound in water at surface: 1444.48 m/s (from CTD probe)
	Speed of sound in water at seabed: 1455.87 m/s (from CTD probe)
	Sound velocity at head: 1445.20 m/s (from Valeport Mini SVS)
	iXBlue Hydrins INS

4. HEALTH, SAFETY & ENVIRONMENT

No safety or HSE incidents were reported during the absolute depth check operations.

5. RESULTS

The MBES data was corrected for tide using GNSS antenna height measurements and depths were reduced to MSL using the DTU13 © model. In order to correct GNSS tide for the difference between free tide (WGS84) and a mean tide (DTU13) a shift of 0.111 m was applied to the tide curve for Maeslantkering, making the data 0.111 m shallower. Also, reference depths are in NAP and the height difference between MSL and NAP is 0.121 m at Hoek van Holland tide gauge (Source: Permanent Service for Mean Sea Level, PSMSL). This difference of 0.121 m has been applied to the M.V. Fugro Pioneer acquired data to reduce the MSL depths to NAP.

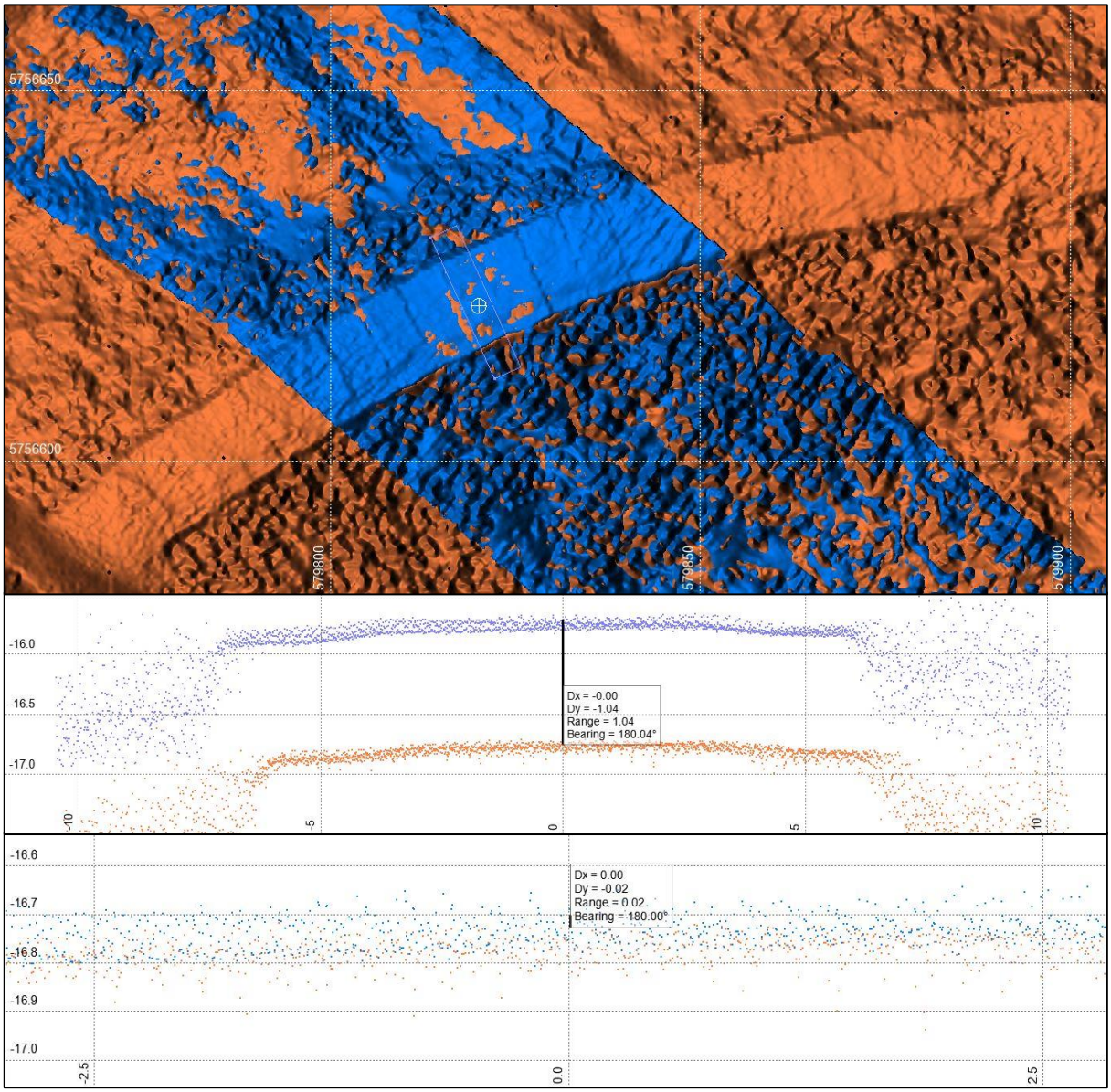

Figure 1: Profile before and after tide applied, depths are reduced to NAP

Using this method, the depth of the threshold was estimated to be 16.75 m (see Figure 1). This result differs by 0.02 m from the RWS reference surface. This falls within the tolerance level for GNSS heights (+/-0.15 m) and, as a result, within the required accuracy limit for the MBES system as specified by IHO 1a standard.

The results of the depth check are summarised in Table 1 below.

Table 1: Summary of Depth Measurements

Tide reduction method for absolute depth check	Measured Depth (Uncorrected) [m]	Tide Correction [m]	Measured Depth (Corrected) [m]	Supplied Depth [m]	Difference [m]	Tolerance [m]
Tide correction from GNSS antenna heights	15.71	1.04	16.75	16.77	0.02	0.15

6. CONCLUSIONS

The depth accuracy of the Kongsberg EM2040 system onboard the M.V. Fugro Pioneer was shown to meet the IHO 1a standard.

Signed:

T. Harrison

Party Chief
(Fugro Survey B.V.)

A. Fleet

Client Representative
(Rijksdienst voor Ondernemend (RVO) Nederland)

A.9 MULTIBEAM ECHO SOUNDER CALIBRATION MV VICTOR HENSEN

(8 pages, not numbered)

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Preliminary Field Report

Subject	Multibeam Calibration, Victor Henson		
Date	21.03.2016	**Page**	1 of 8
To	P. Lebbink	**File**	GH176 Multibeam Calibration
Attn		**E-mail Address**	
Copy		**E-mail Address**	
Copy		**E-mail Address**	
Copy		**E-mail Address**	
From	L. de Haan	**E-mail Address**	Fsbvfieldops15@fugro.com

1. INTRODUCTION

The purpose of the multibeam echo sounder calibration was:

- To determine the accuracy and possible corrections required for the Reson 7125, dual head system.

2. SCOPE OF WORK

The calibration comprised of lines run in a traditional ‘patch test’ manner, 3 lines with an offset of 25m and 2 one on top of each other and opposite directions, 1 in double speed and 1 tie line. See Table 1 for the survey line configuration for multibeam corrections.

Table 1: Survey Line Configuration for Multibeam Corrections

Correction	Survey line configuration
System Latency	Two lines run in the same direction at different survey speeds over the feature (4 knots and 8 knots).
Pitch	Two lines run at the same speed in opposite directions over the feature.
Roll	Three lines run at the same speed in opposite directions over a flat seabed
Yaw	Three lines run at the same speed in same direction over the feature

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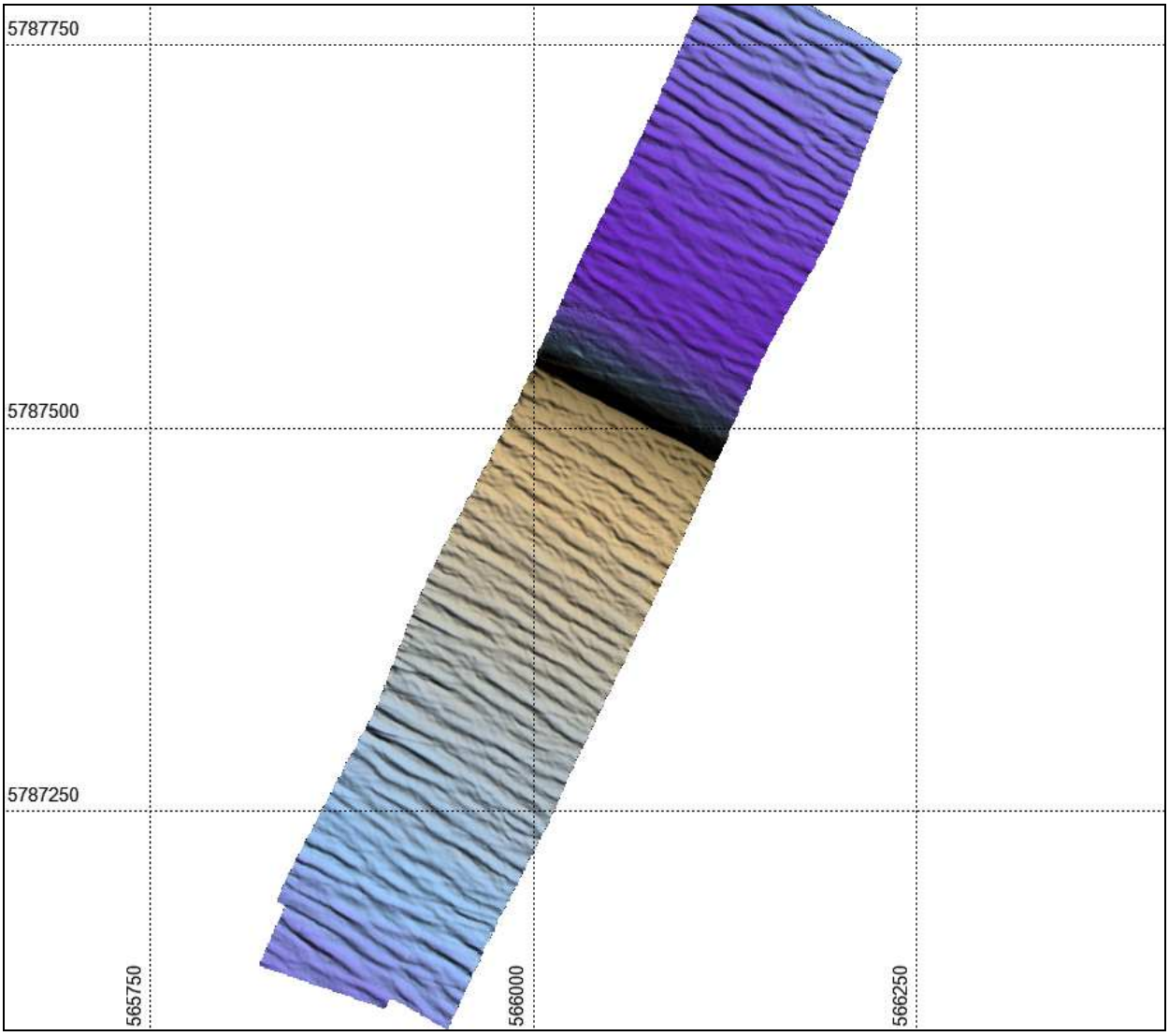

Figure 1: Colour mapped seabed as background

3. OPERATIONS

The calibration was carried out on board the vessel Victor Hensen on 20th March 2016 to determine corrections for the multibeam echo sounder acquisition system.

The calibration was conducted on seabed slope above, south of sector III, Hollandse Kust Zuid Windfarm (Dutch Sector, North Sea), at Latitude: 52° 14' 02'' N Longitude: 03° 58' 02'' E (WGS84) in a water depth of 23 metres.

Positioning and Navigation

Reson 7125 Dual Head
Water Depth Approximately 20 metres
Multibeam Draft 3.603 m
Speed of sound in water at surface 1475.27 m/s from CTD probe
Speed of sound in water at seabed 1475.92m/s from CTD probe
Sound Velocity Probe at head,1474.700 m/s Vale port Mini SVP
POS MV Gyrocompass and POS MV Motion Sensor

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4. RESULTS

Derived System Corrections		
	Rx PORT	**RX STBD**
Latency	+0.00 sec	+0.00 sec
Pitch	1.00°	2.25°
Roll	30.30°	-29.50°
Yaw	-1.50°	-1.50°

The Starfix.Surface screen prints below show profiles of the grid data from the alignment calibration lines. The data was corrected for pitch, roll, latency and yaw. The X axis is in metres along the profile and the Y axis is in metres of water depth.

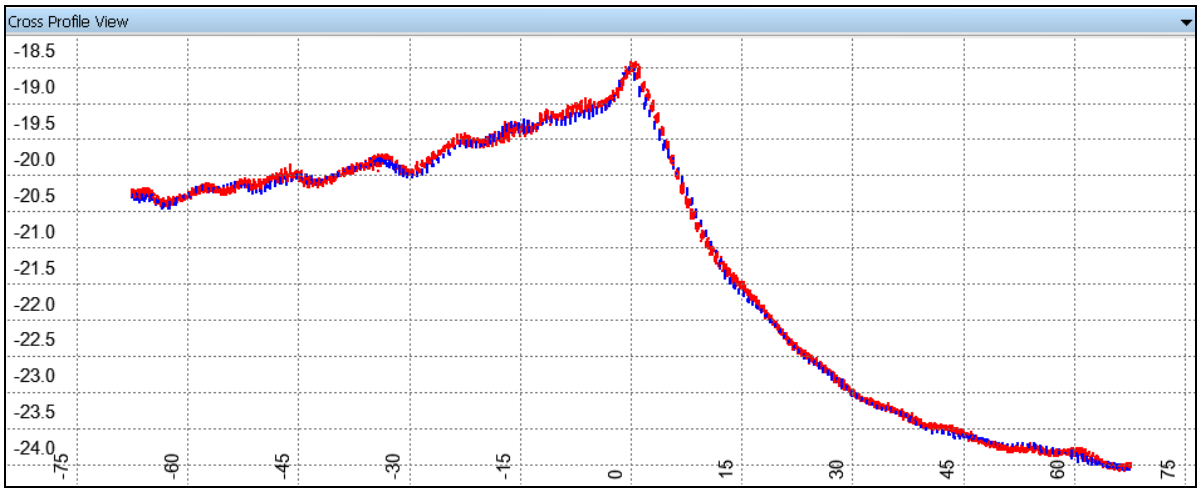

Figure 2: Profile of Latency Lines Uncorrected, Both Heads (Latency = 0 second)

A comparison of the latency profile shows no offset between the two lines run at different speed. The position system used is Starpack unit and no positioning latency was observed.

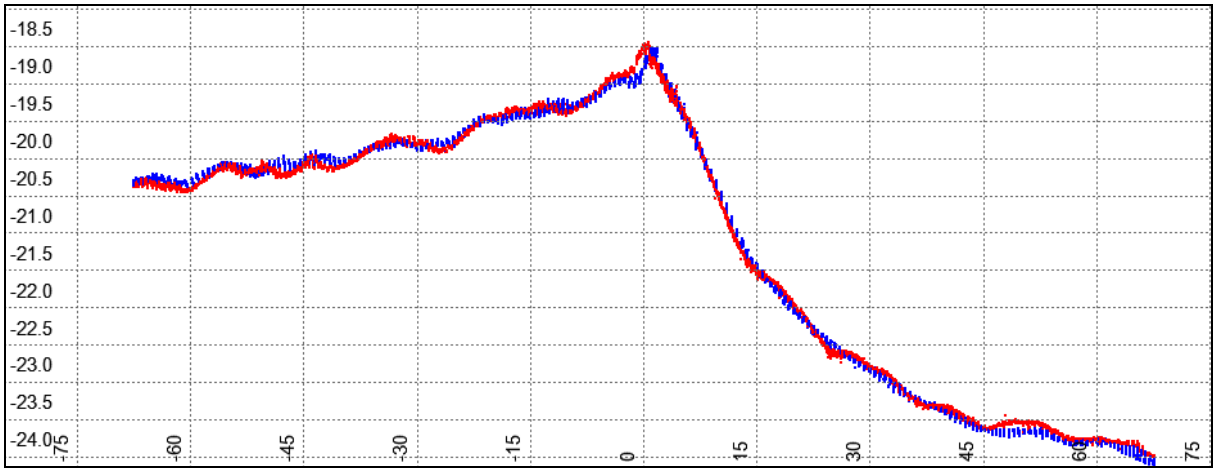

Figure 3: Profile from Pitch Lines Uncorrected, Port Head (Pitch = 0.000°)

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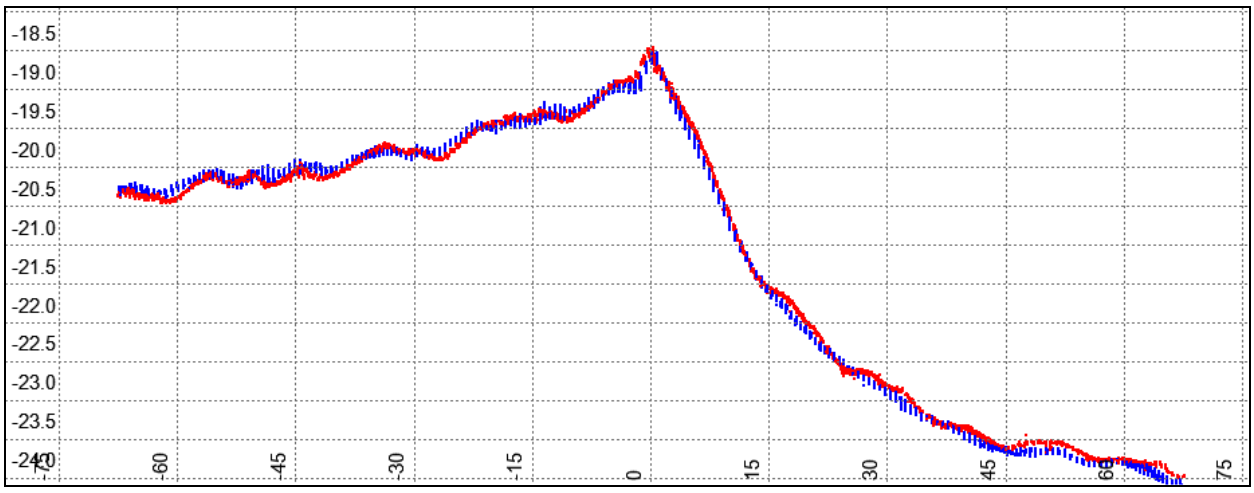

Figure 4 Profile from Pitch Lines Corrected, Port Head (Pitch = 1.000°)

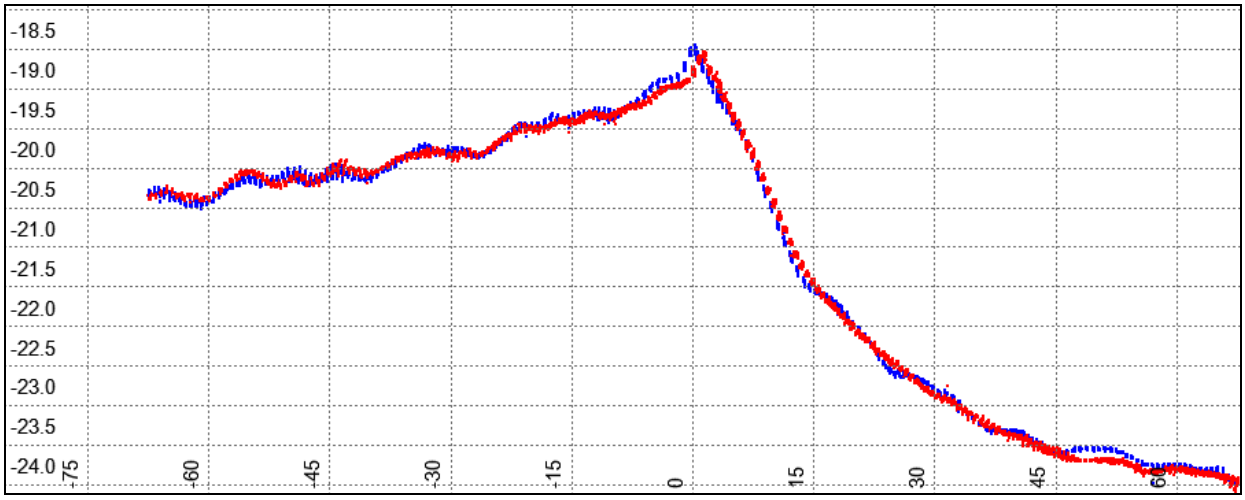

Figure 3: Profile from Pitch Lines Uncorrected, Starboard Head (Pitch = 0.000°)

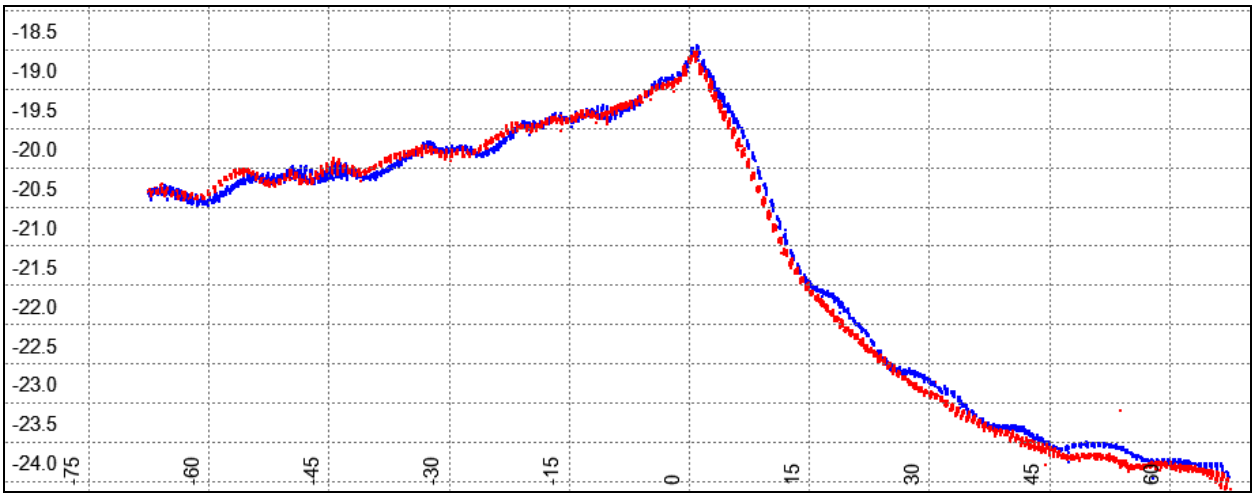

Figure 4: Profile from Pitch Lines Corrected, Starboard Head (Pitch = 2.250°)

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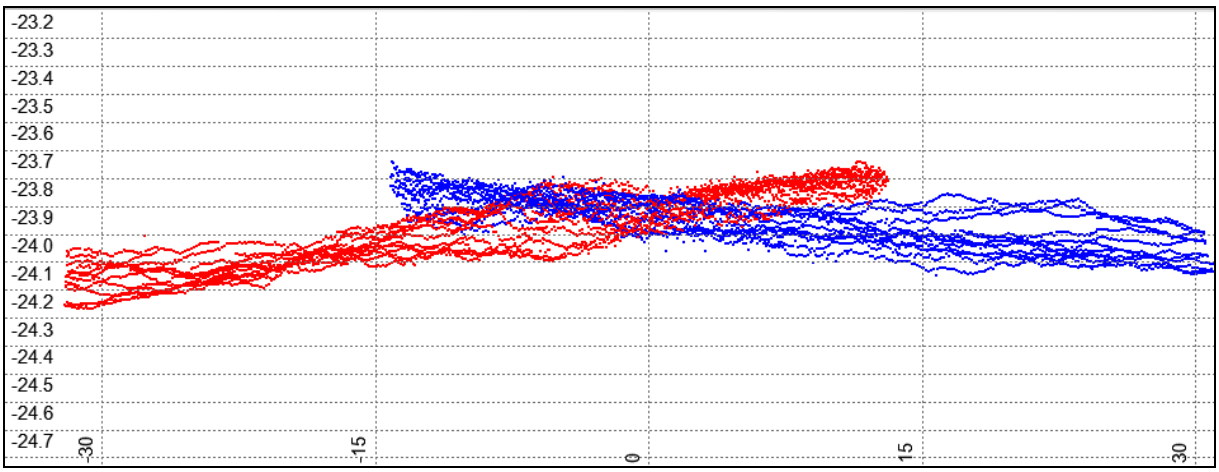

Figure 5: Profile from Roll Lines Uncorrected, Port Head (Roll = 0.000°)

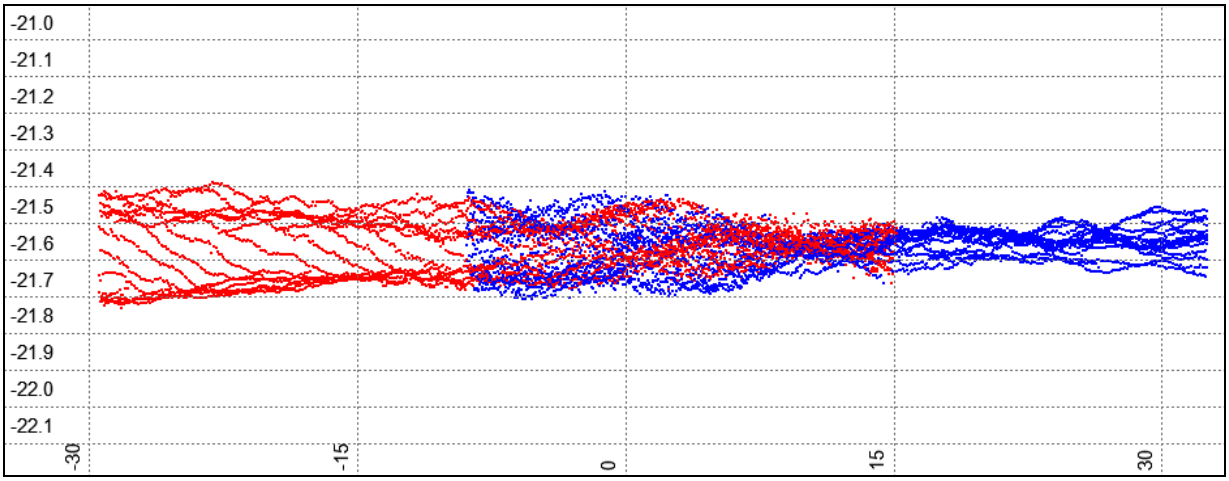

Figure 6: Profile from Roll Lines Corrected, Port Head (Roll 30.300°)

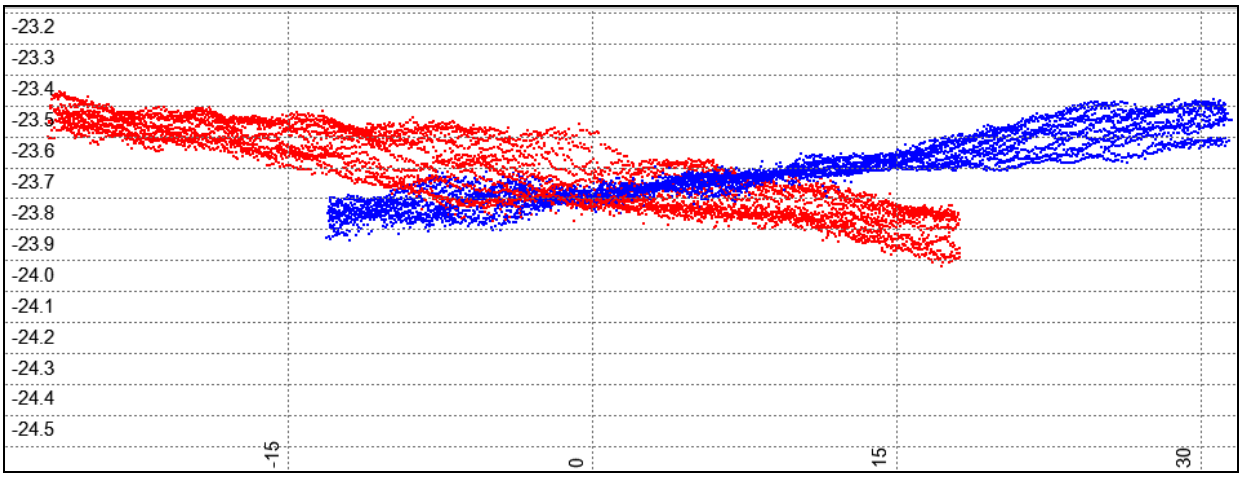

Figure 5: Profile from Roll Lines Uncorrected, Starboard Head (Roll = 0.000°)

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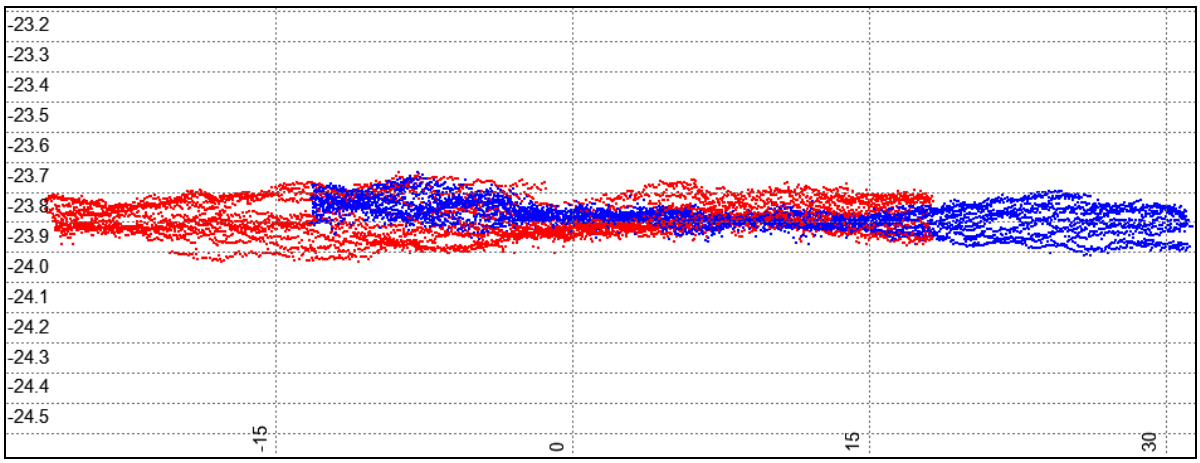

Figure 6: Profile from Roll Lines Corrected, Starboard Head (Roll -29.500°)

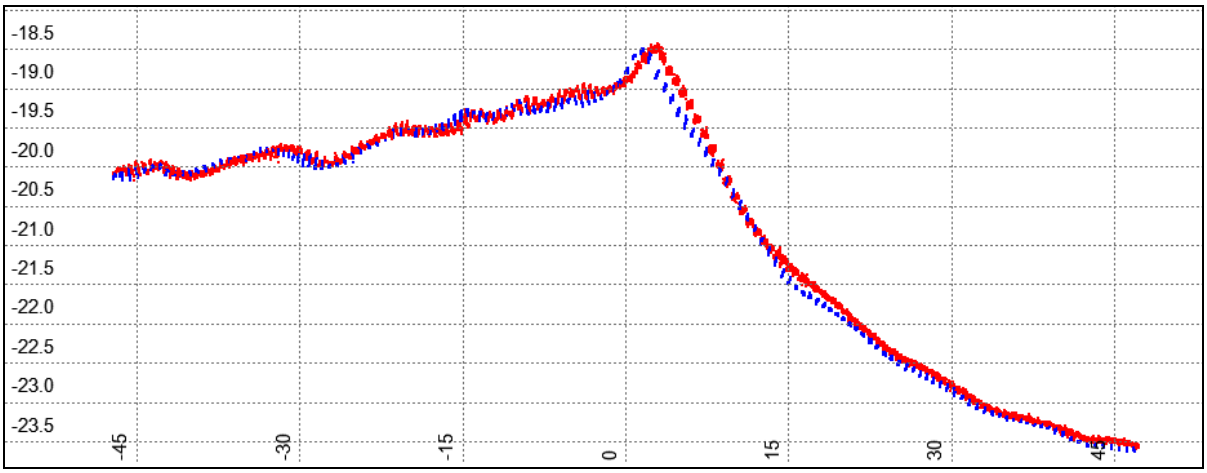

Figure 7: Profile from Yaw Lines Uncorrected, Port Head (Yaw = 0.000°)

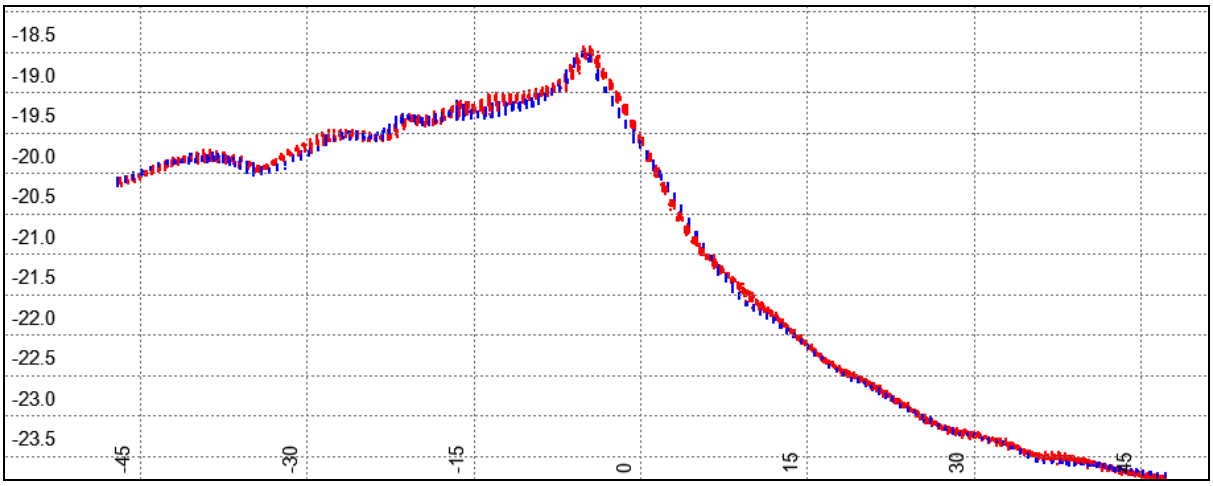

Figure 8: Profile of Yaw Lines Corrected, Port Head (Yaw = -1.500°)

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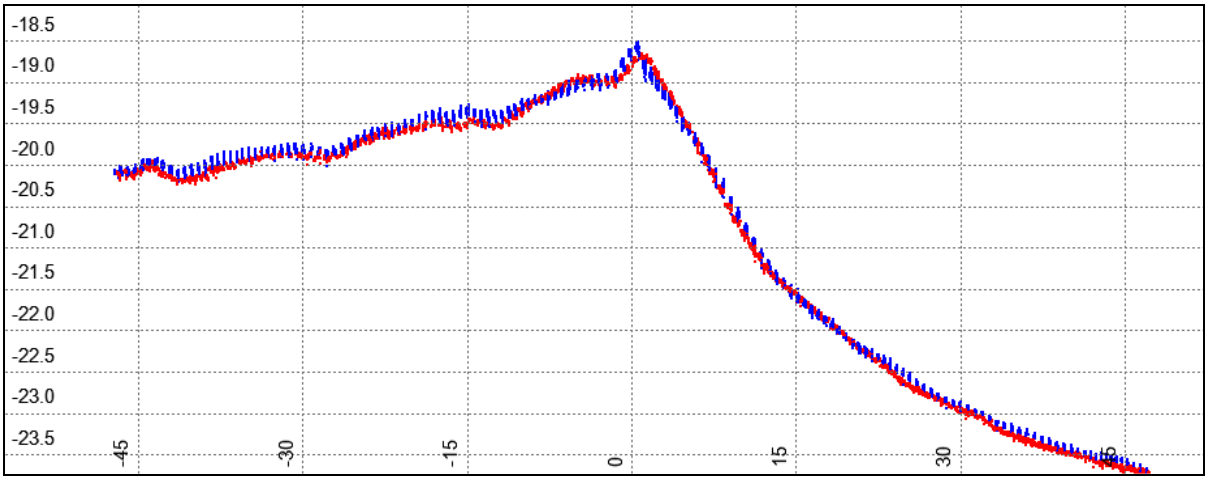

Figure 7: Profile from Yaw Lines Uncorrected (Yaw = 0.000°) Starboard

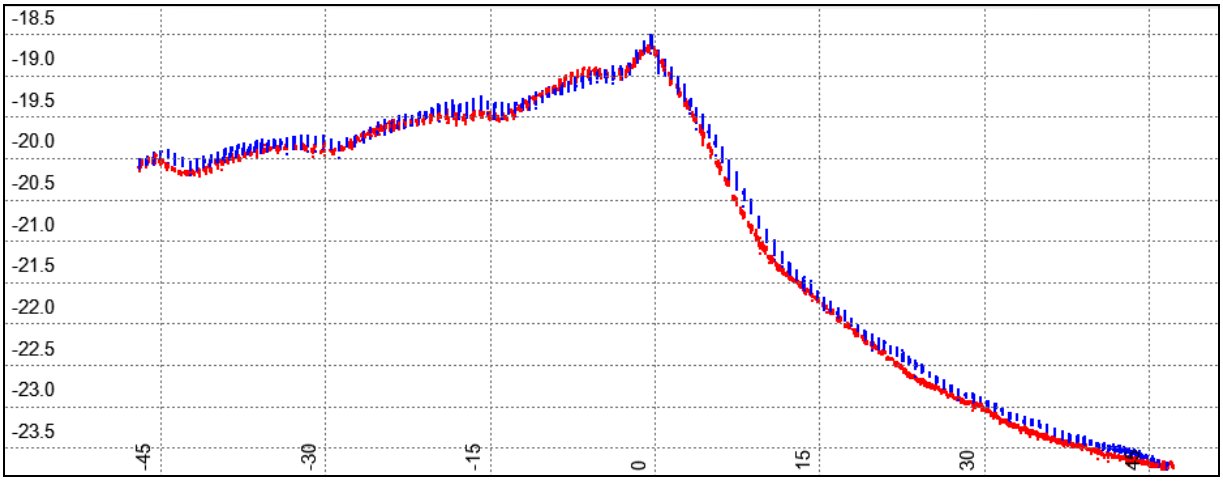

Figure 8: Profile of Yaw Lines Corrected, Starboard Head (Yaw = -1.500°)

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5. CONCLUSIONS

The multibeam system was verified to within the system tolerances as based on the project specification, A cross check of the MBES patch test settings was performed as a Patch test verification.

HSE
No safety or HSE incidents were reported.

Signed:

L. de Haan

Party Chief
(Fugro Survey B.V.)

P. Kitlowski

Client Representative
(Rijksdienst Voor Ondernemend Nederland (RVO))

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A.10 ABSOLUTE DEPTH CHECK MV VICTOR HENSEN

(4 pages, not numbered)

Absolute Depth Check, M.V. Victor Hensen

Prepared for: Rijksdienst voor Ondernemend Nederland (RVO)
Attn.: R. de Bruijne
Copy: B. de Sonneville
From: P. Lebbink

Netherlands Enterprise Agency

Rev	Project No.	Prepared	Checked	Approved	Date
F	GH176	L. de Haan	J. Chisholm	P. Lebbink	01-04-2016

EXECUTIVE SUMMARY

Absolute Depth Check, M.V. Victor Hensen

Introduction

Survey Dates: 19 March 2016
Equipment (Geophysical): Reson 7125 multibeam echo sounder (MBES)
Coordinate System: Datum: WGS84. Projection: UTM Zone 31N, CM 3°E

Results

The absolute depth check comprised the determination of the depth of the threshold of the Maeslandkering, and a comparison with a supplied value for the depth of this feature. MBES data was acquired across the southern threshold of the Maeslandkering and corrected for tides using tide correction from GNSS antenna heights. Reference surface supplied by Rijkswaterstaat (surface dated to 2 February 2016) and all depths are in NAP. The results and tolerances for this depth determination are shown below:

Tide reduction method	Measured Depth (Uncorrected) [m]	Tide Correction [m]	Measured Depth (Corrected) [m]	Supplied Depth [m]	Difference [m]	Tolerance [m]
Tide correction from GNSS antenna heights	17.77	0.98	16.79	16.77	0.03	0.15

Conclusions

The depth accuracy of the Reson 7125 MBES system onboard the M.V. Victor Hensen was shown to meet the IHO 1a standard.

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1. INTRODUCTION

An absolute depth check was required as part of system calibrations ahead of a multibeam echo sounder (MBES) survey to be performed at the RVO Hollandse Kust Zuid OWF locations on the Dutch Continental Shelf.

The purpose of the absolute depth check was to verify that the depth accuracy of the Reson 7125 dual head system was within IHO 1a standard.

2. SCOPE OF WORK

The absolute depth check comprised two (2) lines run with MBES in opposite directions over the southern threshold of the Maeslandkering. The depth derived from the MBES was reduced to Normaal Amsterdams Peil (NAP) and compared with the actual depth (reduced to NAP) of the southern threshold base data supplied by Rijkswaterstaat (RWS). The derived depth from the RWS surface (dated 2nd of February 2016) at position: 579820E 5756621N (WGS84, UTM 31N) is 16.77 m (NAP).

3. OPERATIONS

The absolute depth check was carried out onboard the vessel M.V. Victor Hensen on 19 March 2016 during the RVO Hollandse Kust Zuid OWF survey campaign.

The calibration was conducted on the southern gate of the Maeslandkering (Dutch Sector, North Sea), at Latitude: 51° 57' 16.4'' N Longitude: 04° 09' 41.6'' E (WGS84) in a water depth of approximately 18 metres.

Positioning and Navigation	MBES system: Reson 7125
	Water depth: Approximately 18 metres
	Multibeam draft: 4.156 m
	Speed of sound in water at surface: 1437.87 m/s (from CTD probe)
	Speed of sound in water at seabed: 1469.88 m/s (from CTD probe)
	Sound velocity at head: 1439.85 m/s (from Valeport Mini SVS)
	POSMV

4. HEALTH, SAFETY & ENVIRONMENT

No safety or HSE incidents were reported during the absolute depth check operations.

5. RESULTS

The MBES data was corrected for tide using GNSS antenna height measurements and depths were reduced to MSL using the DTU13 © model. Reference depths are in NAP and the height difference between MSL and NAP is 0.121 m at Hoek van Holland tide gauge (Source: Permanent Service for Mean Sea Level, PSMSL). This difference of 0.121 has been applied to the Victor Hensen acquired data to reduce the MSL depths to NAP.

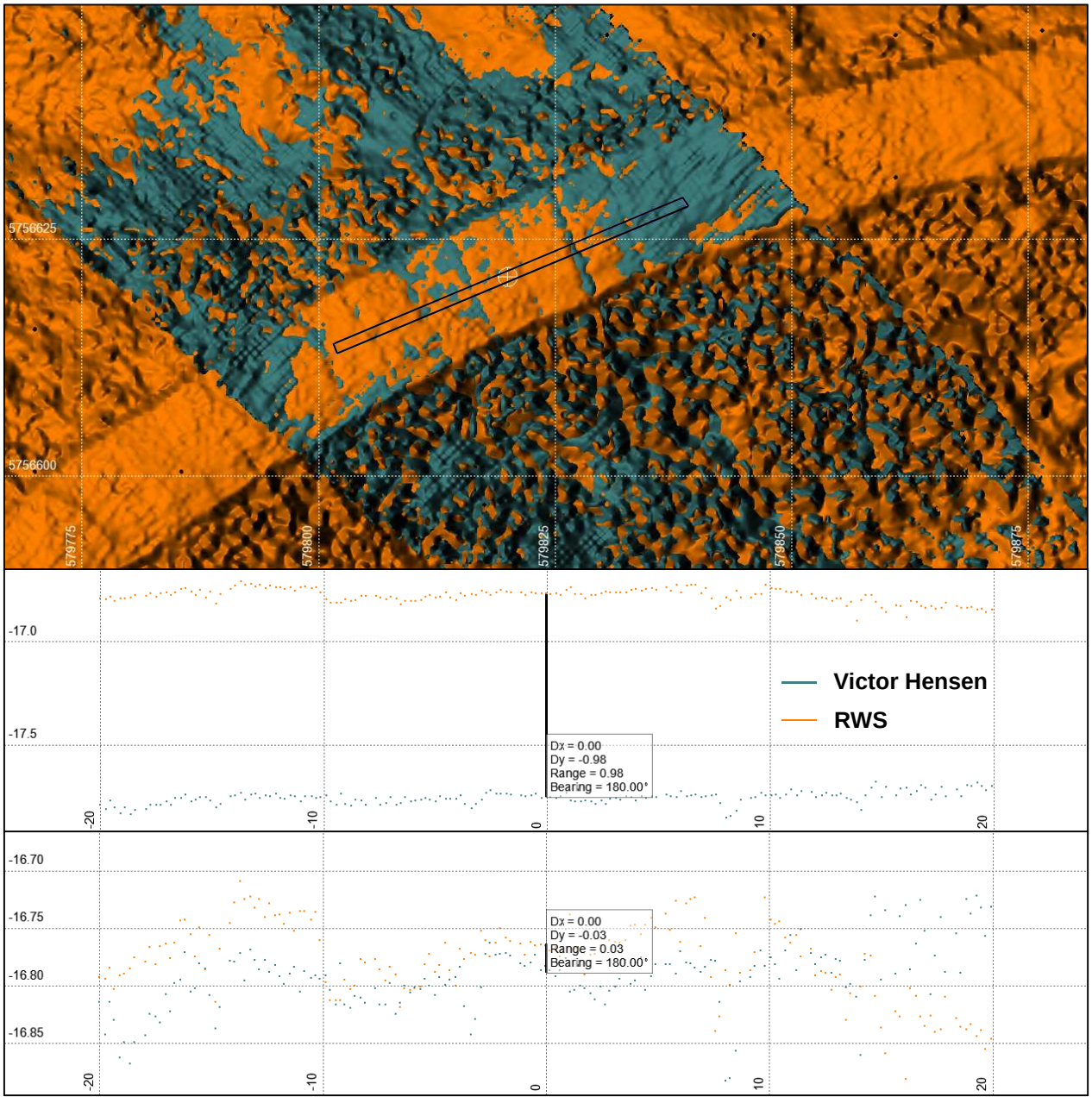


Figure 1: Profile before and after tide applied, depths are reduced to NAP

Using this method, the depth of the threshold was estimated to be 16.79 m (see Figure 1). This result differs by 0.03 m from the RWS reference surface. This falls within the tolerance level for GNSS heights (+/-0.15 m) and, as a result, within the required accuracy limit for the MBES system as specified by IHO 1a standard.

The results of the depth check are summarised in Table 1 below.

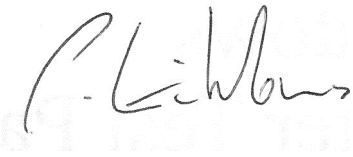
Table 1: Summary of Depth Measurements

Tide reduction method for absolute depth check	Measured Depth (Uncorrected) [m]	Tide Correction [m]	Measured Depth (Corrected) [m]	Supplied Depth [m]	Difference [m]	Tolerance [m]
Tide correction from GNSS antenna heights	17.77	0.98	16.79	16.77	0.03	0.15

6. CONCLUSIONS

The depth accuracy of the Reson 7125 MBES system onboard the M.V. Victor Hensen was shown to meet the IHO 1a standard.

Signed:



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(Fugro Survey B.V.)

P. Kitlowski

Client Representative
(Rijksdienst voor Ondernemend (RVO) Nederland)

A.11 BATHYMETRY DATA COMPARISON BETWEEN MV FUGRO PIONEER AND MV VICTOR HENSEN

(5 pages, not numbered)

Bathymetry data comparison between M.V. Fugro Pioneer & Victor Hensen

Prepared for: Rijksdienst voor Ondernemend Nederland (RVO)
Attn.: R. de Bruijne
Copy: B. de Sonneville
From: P. Lebbink

Netherlands Enterprise Agency

Rev	Project No.	Prepared	Checked	Approved	Date
F	GH176	L. de Haan T. Harrison	J. Chisholm	P. Lebbink	01-04-2016

EXECUTIVE SUMMARY

Bathymetry data comparison between M.V. Fugro Pioneer & Victor Hensen

Introduction

Survey (Comparison) Date: 20 March 2016
Equipment (Geophysical): Kongsberg EM2040 dual head multibeam echo sounder (MBES) (Fugro Pioneer),
Reson 7125 dual head multibeam echo sounder (MBES) (Victor Hensen)
Coordinate System: Datum: WGS84. Projection: UTM Zone 31N, CM 3°E

Results

The average difference between the two data sets is equal to 0.008 m, with a standard deviation of 0.038 m. The mode is equal to 0.021 m, as visible in Figure 1. For 81.7% of all available data points the difference was observed to be between +0.05 m and -0.05 m.

The results of the bathymetry data comparison are summarised below:

Average (mean) depth difference [m]	Average (mode) depth difference [m]	Standard deviation [m]	Data points within +/- 0.05 m [%]
0.008	0.021	0.038	81.7

Conclusions

The bathymetry data comparison between the M.V. Fugro Pioneer's Kongsberg EM2040 and the Victor Hensen's Reson 7125 MBES systems indicates that the measured depths from the two platforms show very close agreement, within the expected tolerances.

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1. INTRODUCTION

The survey of the Hollandse Kust (Zuid) Offshore Wind Farm for RVO is being performed by Fugro using two survey vessels, M.V. Fugro Pioneer and Victor Hensen. The bathymetry data from the two vessels will be merged to produce the final bathymetric dataset for the survey area. To ensure good correlation between the datasets a comparison of the depths derived by both vessels was undertaken.

The purpose of the bathymetry data comparison was:

- To compare depth measurements from M.V. Fugro Pioneer and Victor Hensen by comparing MBES data acquired by both vessels over the same survey line.

2. SCOPE OF WORK

At the beginning of survey operations a common survey line (FPMain55) of length approximately 1 km was surveyed by both vessels in the same direction. To minimize bathymetric differences due to tide effects, the reference line was surveyed by both vessels in quick succession, with the M.V. Fugro Pioneer surveying the line 20 minutes ahead of the Victor Hensen.

3. OPERATIONS

The depth check was conducted on 20 March 2016 between 22:00 and 23:00 UTC. The check was performed within Survey Area I & II of the Hollandse Kust (Zuid) Offshore Wind Farm (Dutch Sector, North Sea), at Latitude: 52° 20’ 28’’ N and Longitude: 04° 02’ 13’’ E (WGS84) in a water depth of 20 m.

The following equipment and speed of sound measurements were used during the survey operations:

Positioning and Navigation Fugro Pioneer	Kongsberg EM2040 dual head multibeam echo sounder Multibeam Draft: 3.50 m Hydrins Gyrocompass and Hydrins Motion Sensor Speed of sound in water at surface: 1475.45 m/s (from CTD probe) Speed of sound in water at seabed: 1475.87 m/s (from CTD probe) Speed of sound in water at MBES head: 1474.50 m/s (from Valeport Mini SVP)
Positioning and Navigation Victor Hensen	Reson 7125 dual head multibeam echo sounder Multibeam draft: 4.157 m POS MV Gyrocompass and POS MV Motion Sensor Speed of sound in water at surface: 1475.27 m/s (from CTD probe) Speed of sound in water at seabed: 1475.92 m/s (from CTD probe) Speed of sound in water at MBES head: 1474.70 m/s (from Valeport Mini SVP)

4. HEALTH, SAFETY & ENVIRONMENT

No safety or HSE incidents were reported during the multibeam echo sounder depth comparison.

5. RESULTS

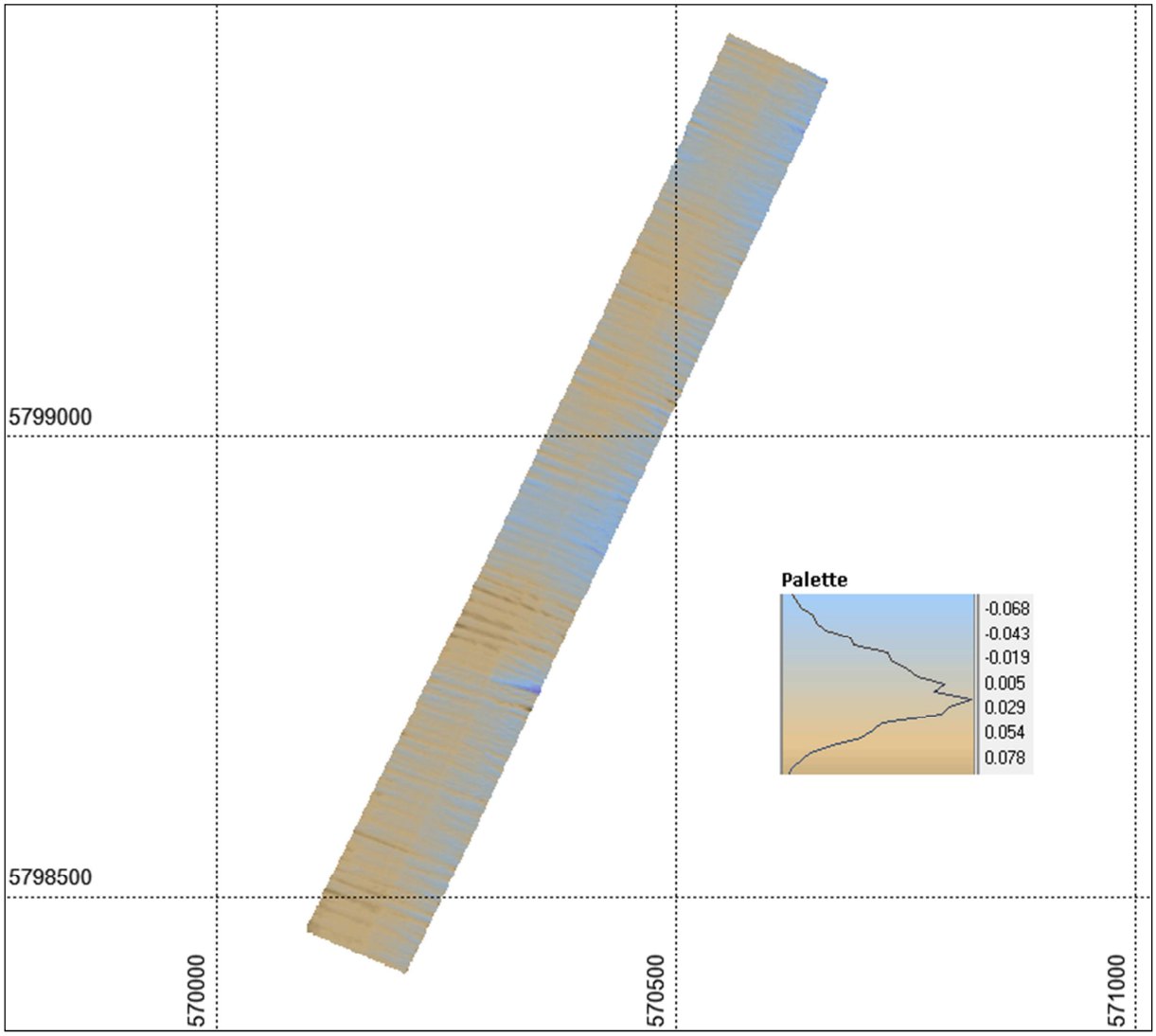
The multibeam echo sounder data from both vessels were processed using the same steps. Both sets of data were corrected for pitch, roll, latency and yaw. Depth measurements were reduced using GNSS heights combined with the Danish Technical University (DTU13) tide model to eliminate any residual tide effects.

The resulting bathymetric datasets from the two vessels have been compared by subtracting one from the other to provide the difference between the depth measurements from the two vessels. Refer to Figure 1 for an image showing the resulting difference surface produced.

Table 1: Measured depth difference between M.V. Fugro Pioneer and Victor Hensen

Average (mean) depth difference [m]	Average (mode) depth difference [m]	Standard deviation [m]	Data points within +/- 0.05 m [%]
0.008	0.021	0.038	81.7

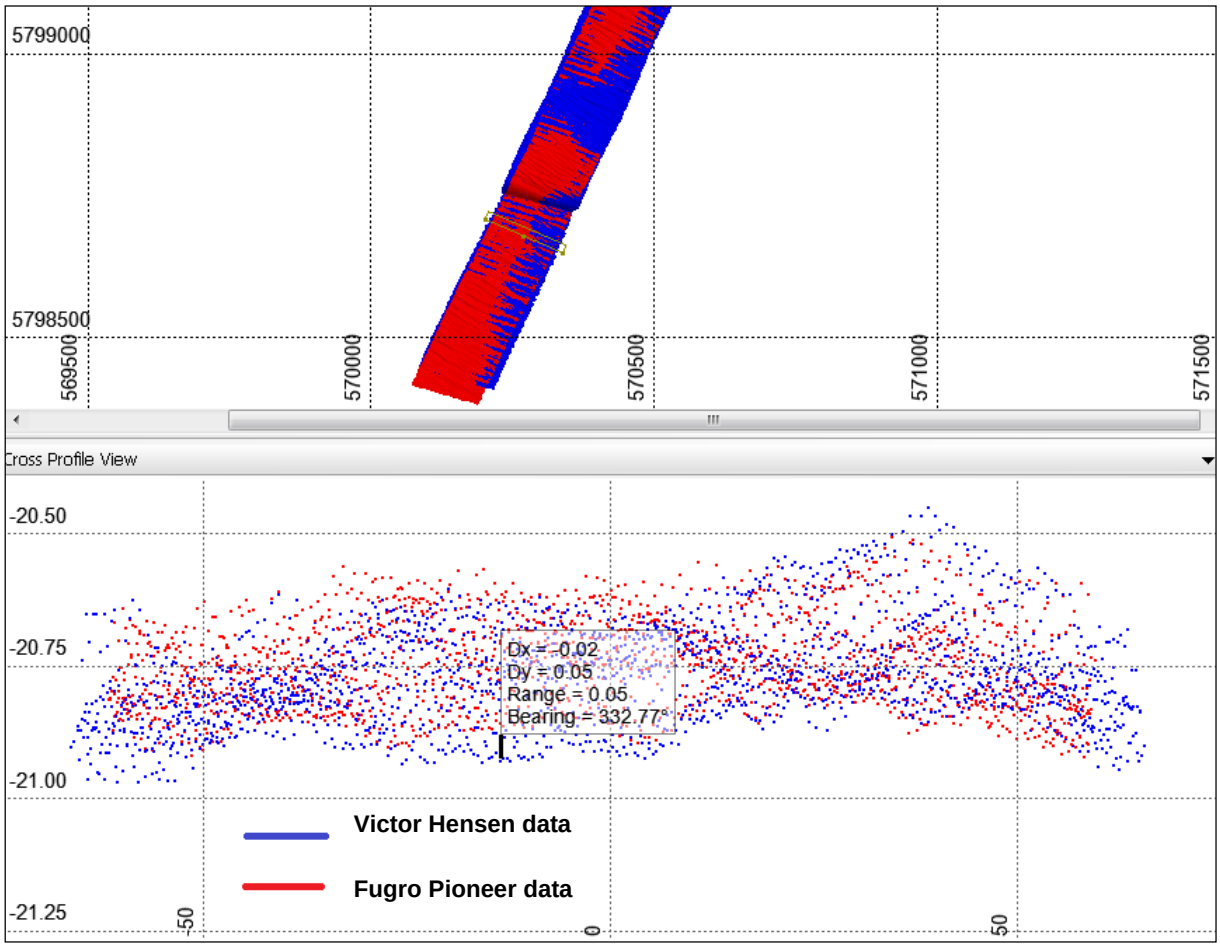
The average difference between the two data sets is equal to 0.008 m, with a standard deviation of 0.038 m. The mode is equal to 0.021 m, as visible in Figure 1. For 81.7% of all available data points the difference was observed to be between +0.05 m and -0.05 m.



(Scale in metres)

Figure 1: Difference surface between M.V. Fugro Pioneer and Victor Hensen MBES data

A detailed profile across the two datasets is shown in Figure 2. A very good correlation between the soundings from the two different datasets can be seen.



(Both axes in metres)

Figure 2: Profile from Fugro Pioneer and Vector Hensen bathymetry data comparison

6. CONCLUSIONS

The bathymetry data comparison between the M.V. Fugro Pioneer's Kongsberg EM2040 and the Victor Hensen's Reson 7125 MBES systems indicates that the measured depths from the two platforms show very close agreement, within the expected tolerances.

Signed:

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Party Chief
(Fugro Survey B.V.)

P. Kitlowski
Client Representative
(Rijksdienst voor Ondernemend Nederland (RVO))

A.12 USBL CALIBRATION MV FUGRO PIONEER

(9 pages, not numbered)

Fugro Pioneer USBL Calibration Report

SUMMARY

Introduction	
Survey Date:	4th March 2016. All times Local (UTC+1)
Location:	Skagerrak, Denmark. Approximate WGS-84 position: 58° 13.5` N, 009° 58.4` E
Weather Conditions:	Wind NE1/2, Sea State 1
Coordinate System:	Datum: ED50. Projection: UTM Zone 32N, CM 9°E
Personnel:	A. Jones, M. Volterrani

Equipment

Kongsberg HiPAP 501 USBL
Kongsberg APOS
Kongsberg cNode Maxi (S/N 13455 M51)
Fugro StarPack (DGPS 3 G2+)
iXBlue HydrINS

Sequence of Events

Fugro Pioneer arrived at the USBL site at 0600. After a tool box talk an SVP was carried out and the HiPAP pole was deployed. The laser measure in the HiPAP system was calibrated and verified using beacons deployed at fixed length over the side. At 1100 the cNode Maxi beacon was tested over the side to ensure connection and that the acoustic release worked. The beacon was redeployed with seabed weights to the seabed at 1205. The 4-cardinal point survey procedure started at 1240 and finished at 1531. After computing the results an offset spin verification was carried out between 1608 and 1657. The beacon was released from the seabed and recovered to Fugro Pioneer at 1725.

Conclusion

The HiPAP USBL system on board Fugro Pioneer was successfully calibrated for Roll, Pitch and Orientation. Calibration results were proven by a USBL verification.

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1. PREPARATION

1.1 Attitude and Heading

An iXBlue HydrINS provided corrected attitude and heading to the HiPAP system. The HydrINS is corrected for roll, pitch and heading so it is aligned with the vessel reference frame. The HydrINS lever arms are set for the HiPAP position.

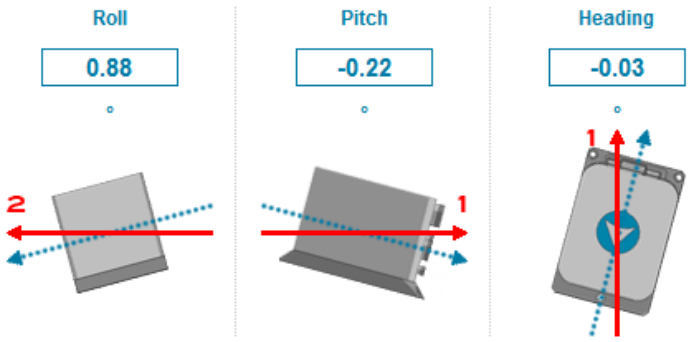

Figure 1.1: HydrINS alignments

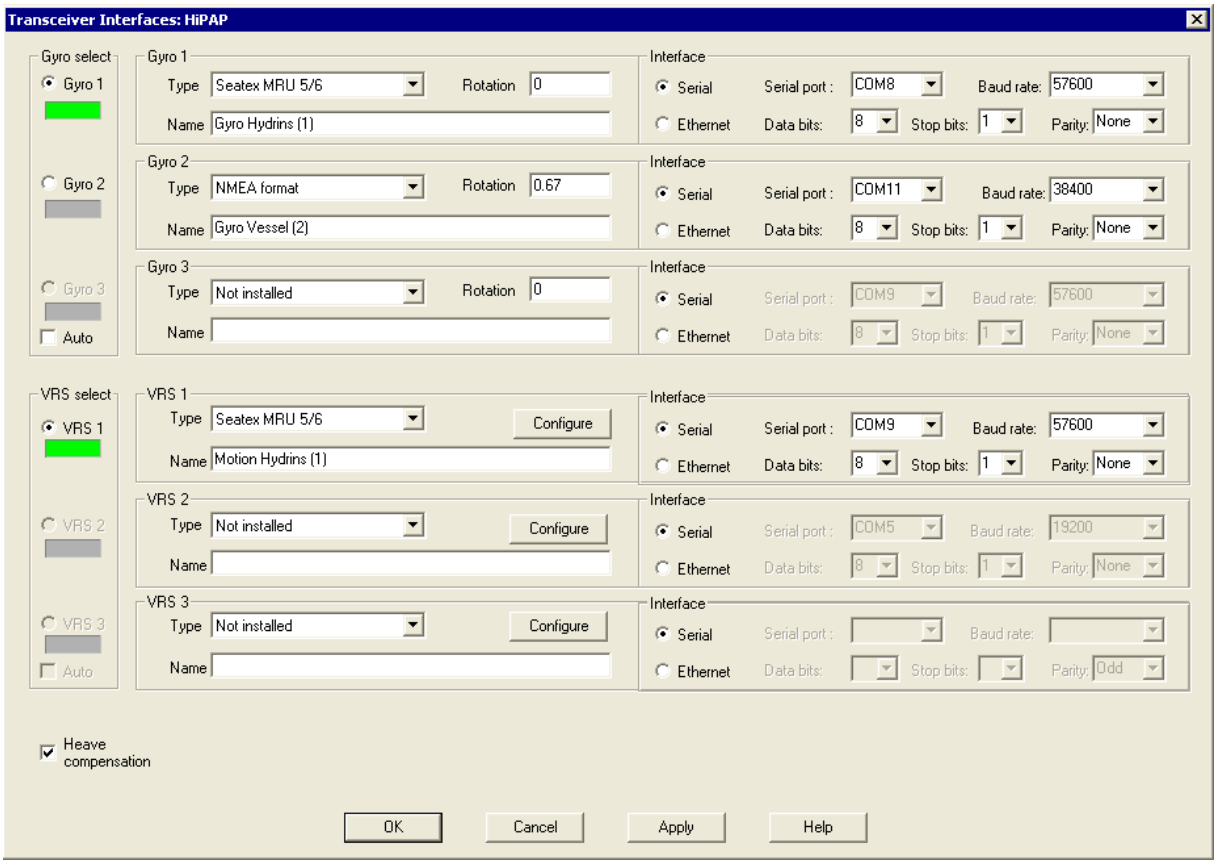

Figure 1.2: HiPAP Attitude sensors in

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1.2 Offsets

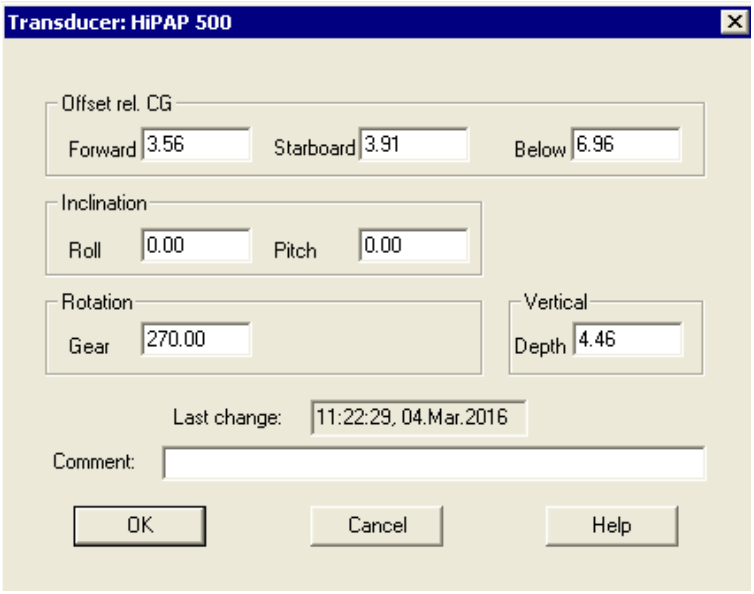
Vessel offsets were measured by total station in dry dock during construction in 2014, in the raised and deployed (lowered) position. The deployed offsets are entered into the APOS transceiver configuration.

The DGPS data received by the HiPAP system is already CRP corrected so there is no need to enter offsets in APOS.

Table 1.1: Calibration Offsets

Name	X	Y	Z	Remarks
HiPAP raised	3.91	3.56	-4.31	To CRP
HiPAP deployed	3.91	3.56	-6.96	To CRP
DGPS 3	3.176	4.262	12.134	To CRP

Figure 1.3: HiPAP transceiver offsets in APOS



Before calibration the laser measure was calibrated to ensure that the HiPAP pole is lowered to its full position.

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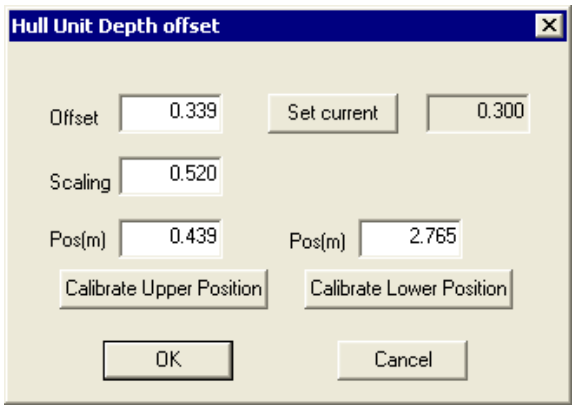
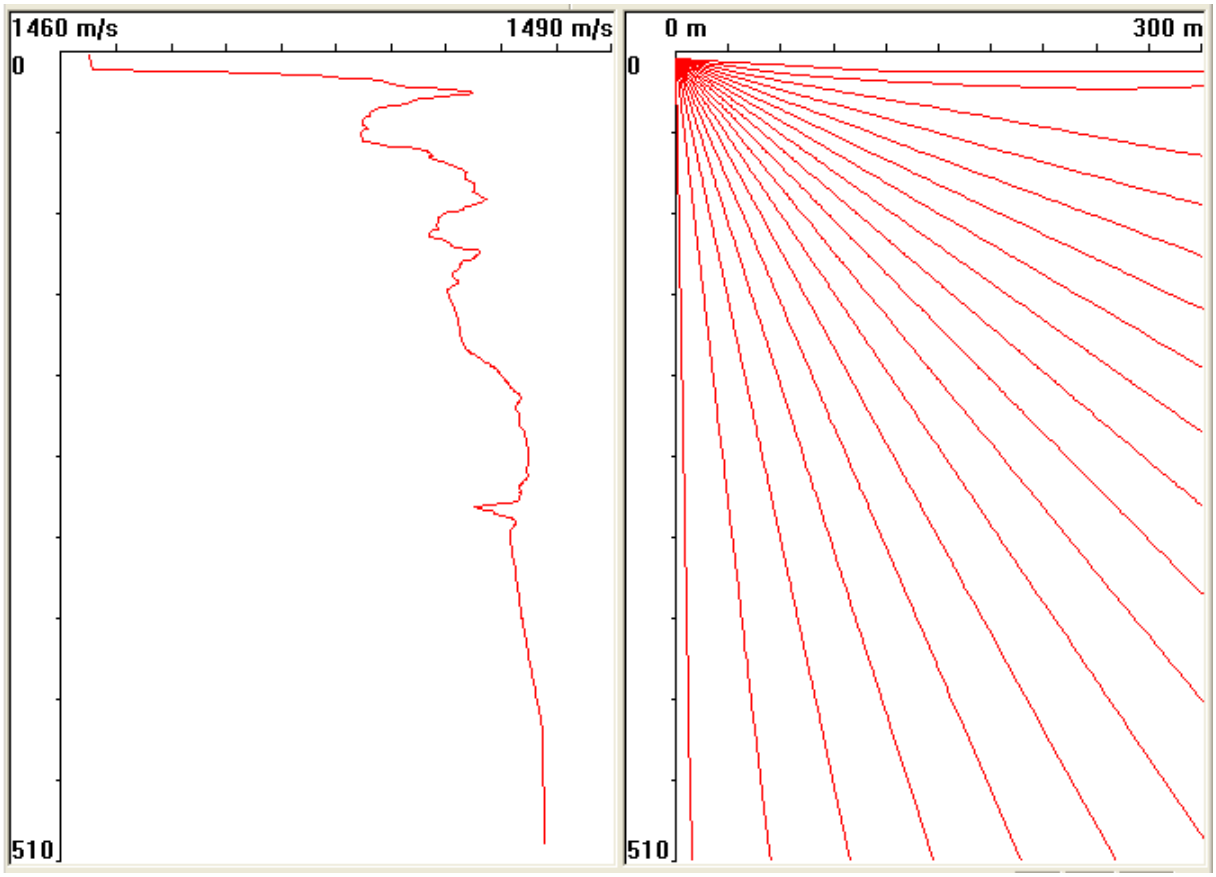
Figure 1.4: HiPAP laser depth offset



1.3 Sound Velocity Profile

An SVP was carried out on arrival at the calibration site and entered into the EA400 echosounder and APOS.

Figure 1.5: Active SVP in APOS



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2260 AC Leidschendam, The Netherlands
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2. ACQUISITION

2.1 Beacon Position

The cNode Maxi beacon was deployed to the seabed. Once settled, the mean position of the beacon was recorded using Starfix.NG. The pre-calibration roll, pitch and orientation values were used in the USBL system to help measure an accurate position. This position was used to centre the cardinal points set-up.

Easting versus northing from Transponder M51 (In-use of Sandbag Beacon) - Easting Minimum: 557336.76 Maximum: 557338.32 Mean: 557337.43 SD: 0.34 Count: 148
Easting versus northing from Transponder M51 (In-use of Sandbag Beacon) - Northing Minimum: 6454002.99 Maximum: 6454004.32 Mean: 6454003.69 SD: 0.27 Count: 148

2.2 Water Depth and Beacon Height

The EA400 echosounder displayed a flat seabed of 438m

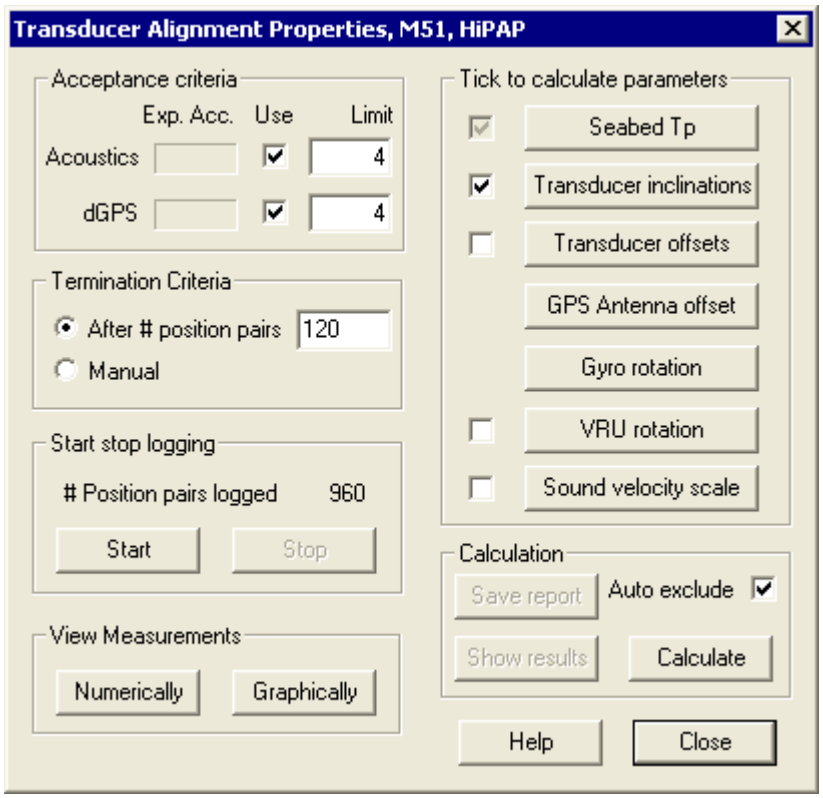
The height from seabed clump weight to beacon was 5m.

2.3 Transducer Alignment Properties

An acceptance criterion was set for acquisition of 4m for DGPS and HiPAP. APOS would collect 120 records at each point. No offsets were set for GPS Antenna or Gyro rotation.

Only *Transducer inclinations* was set, i.e. for the calibration of roll, pitch and orientation.

Figure 2.1: Active SVP in APOS



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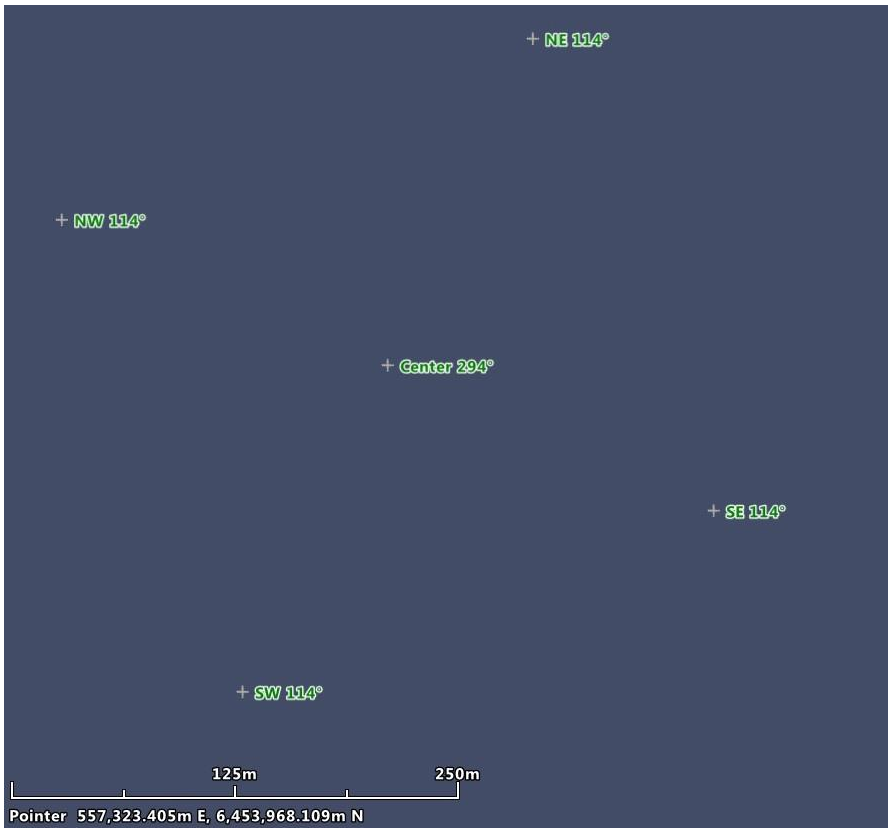
2.4 Acquisition Method

Starfix.NG was used for setting the waypoints and vessel navigation. Waypoints were set 200m away from the beacon.

The transponder position was measured at 4 cardinal points using dynamic positioning to keep the vessel stationary on a heading 114°. 4 additional static positions on top of the transponder were logged, each with a different vessel heading of 24°, 114°, 204°, and 294°.

120 records at 1 second intervals were taken at each point.

Figure 2.2: NG Calibration cardinal waypoints



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3. CALCULATIONS

3.1 Measurements

At the end of acquisition, 960 values had been recorded. The Figures below show the raw, uncorrected measurements. Measurements auto-excluded by APOS are circled in red.

Figure 3.1: Measured transponder position

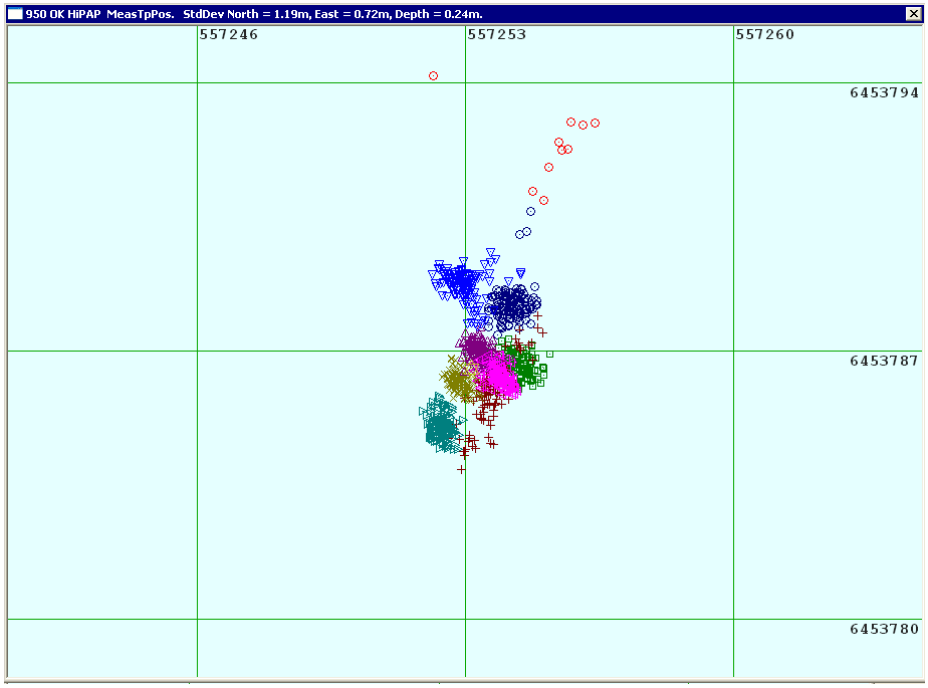
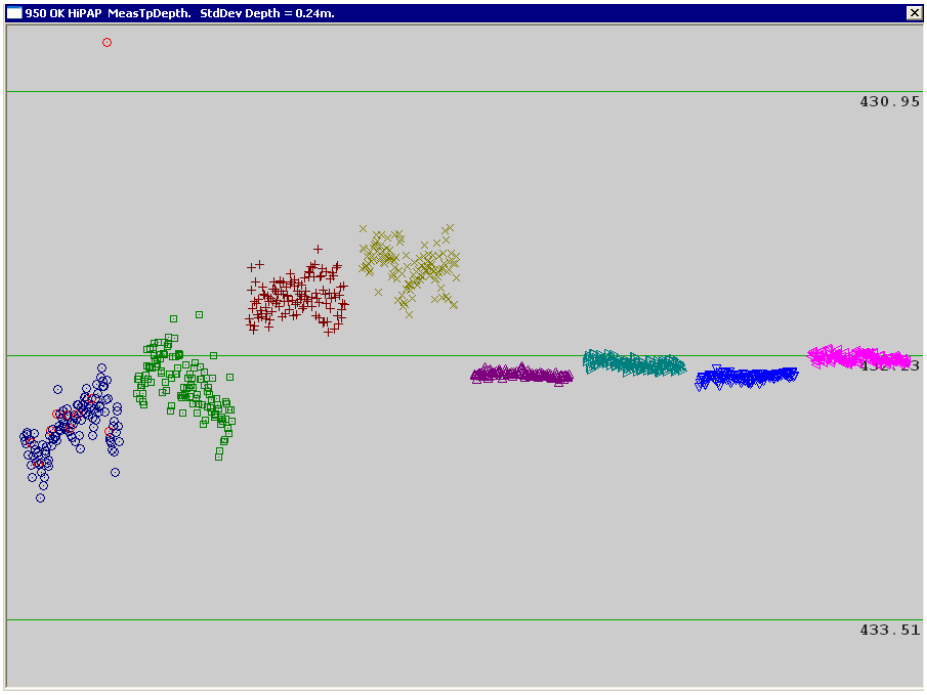


Figure 3.2: Measured transponder depth



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2260 AC Leidschendam, The Netherlands
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3.2 Measurements

Figure 3.3: Compensated transponder position

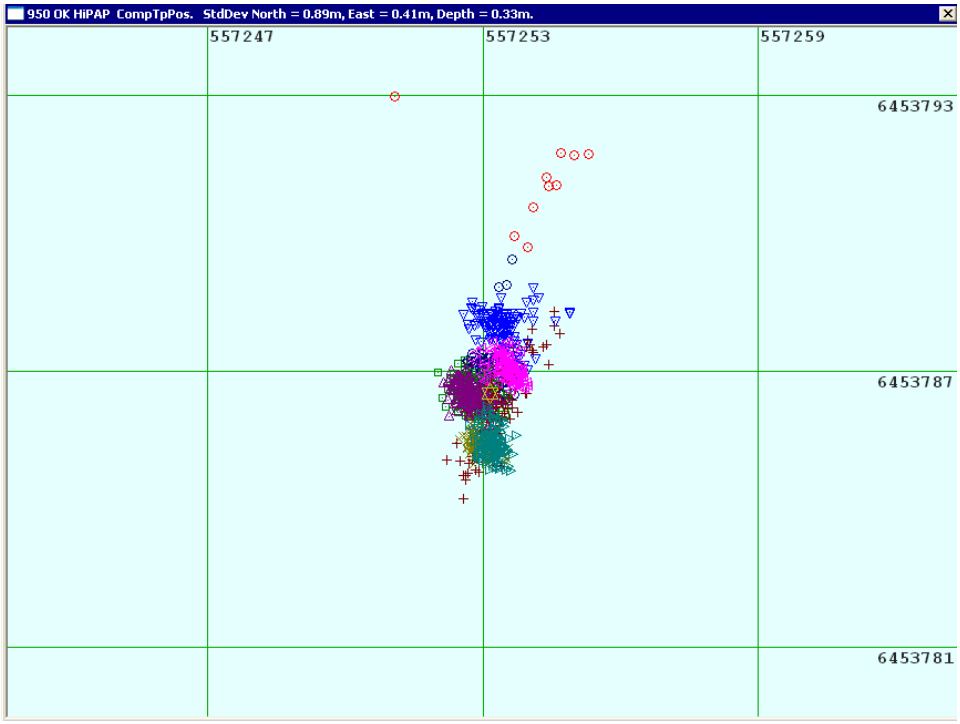
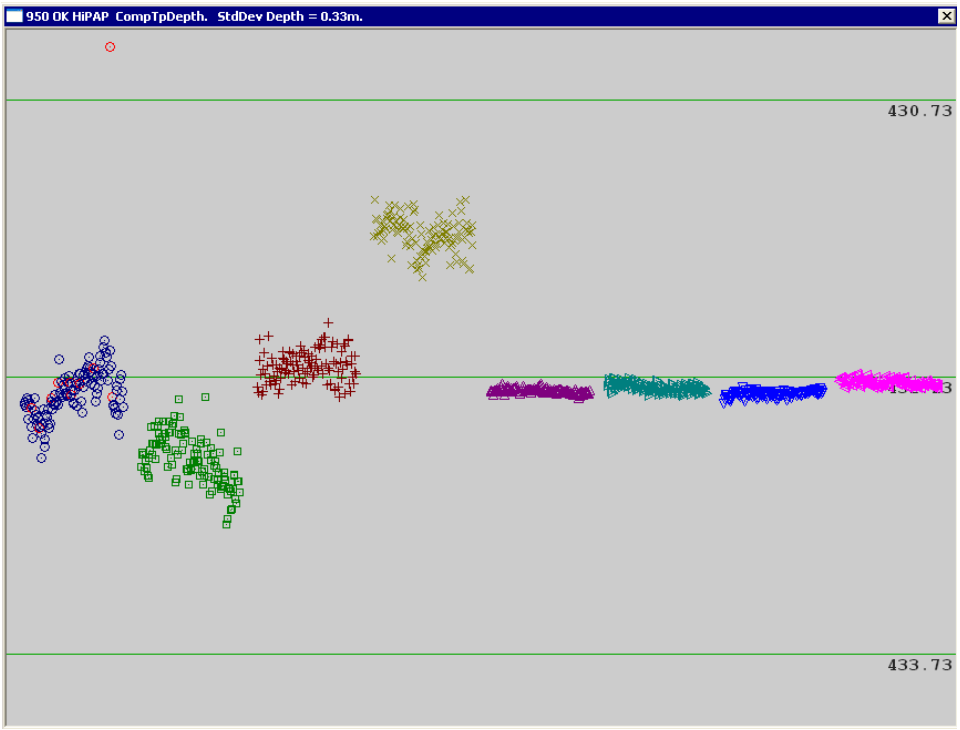


Figure 3.4: Compensated transponder depth



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4. COMPUTED RESULTS

Table 4.1: Transducer alignment results

Name	Calculated	SD	Installation
Roll	0.07°	0.01°	0°
Pitch	-0.09°	0.01°	0°
Orientation	269.75°	0.02°	270°

Figure 4.1: Calculated parameters

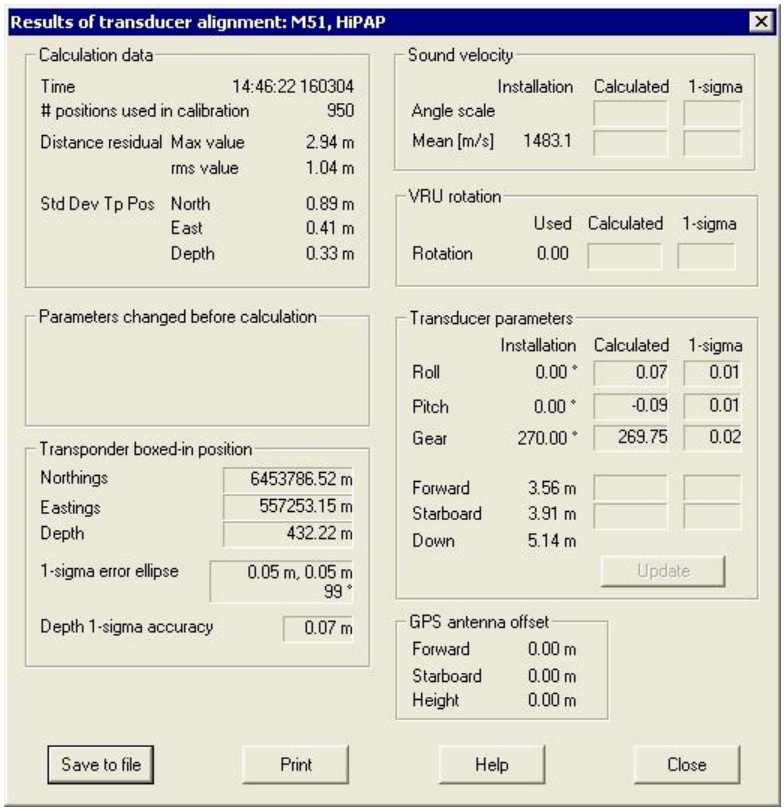
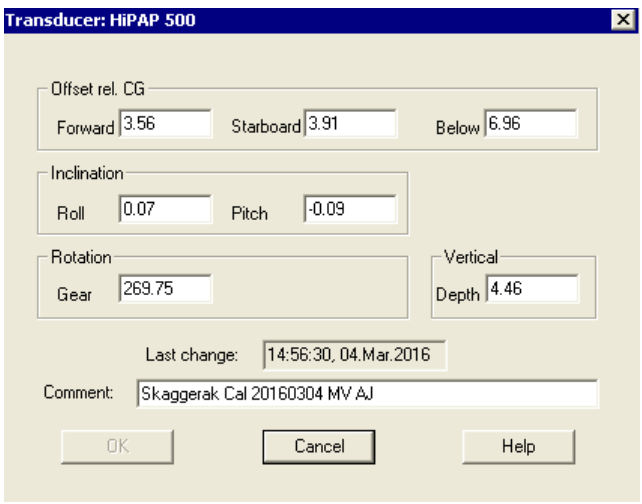


Figure 4.2: Applied results in APOS



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A.13 USBL VERIFICATION MV FUGRO PIONEER

(4 pages, not numbered)

USBL / SSS system verification report

Subject	USBL System Verification		
Date	09-03-2016		
To	P.P. Lebbink	**File**	GH176_USBL_Verification
Attn		**E-mail Address**	
Copy		**E-mail Address**	
Copy		**E-mail Address**	
From	T. Harrison	**E-mail Address**	partychief@pioneer.fugro.com

1. INTRODUCTION

The purpose of the USBL verification was:

- To determine the accuracy of the HiPAP USBL system in conjunction with the SSS system

A USBL calibration was performed on 4 March 2016 in the Skagerrak, Denmark. The calibration report is included for reference.

2. SCOPE OF WORK

The verification consisted of running two side scan sonar lines in opposite directions over some mattresses near the F03-FB platform location. Table 1 shows the details of the centre position of the F03-FB platform.

Table 1: F03-FB platform location centre coordinates

Datum ED50 UTM31N				
Location	**Easting [m]**	**Northing [m]**	**Latitude North**	**Longitude East**
F03-FB platform location	608905	6079976	54° 51’ 13.8”	4° 41’ 46.8”

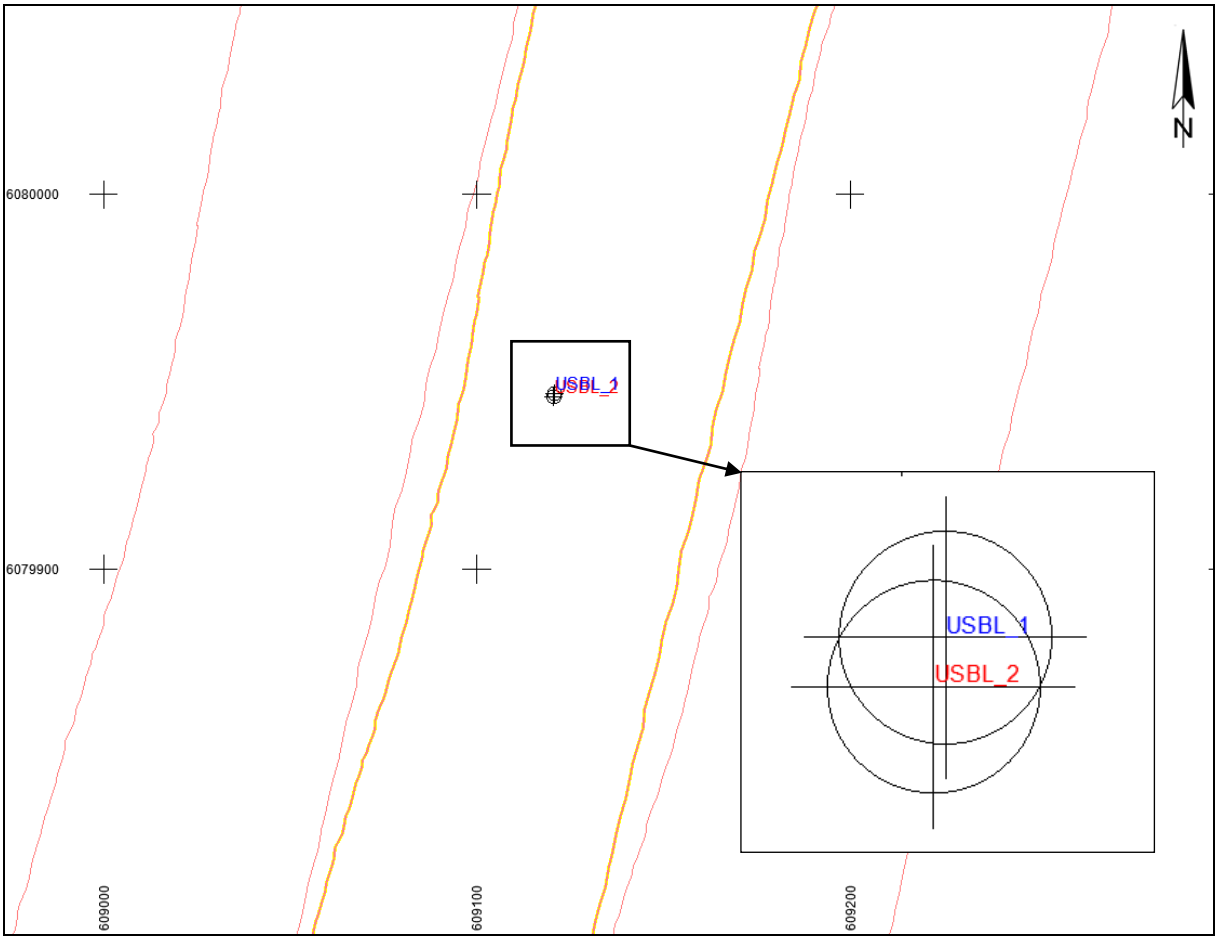


Figure 1: North-up side scan sonar tracks at USBL verification location

3. OPERATIONS

The verification was carried out onboard the vessel MV Fugro Pioneer on 5th March 2016. This was prior to a previous debris survey performed at F03-FB platform.

4. RESULTS

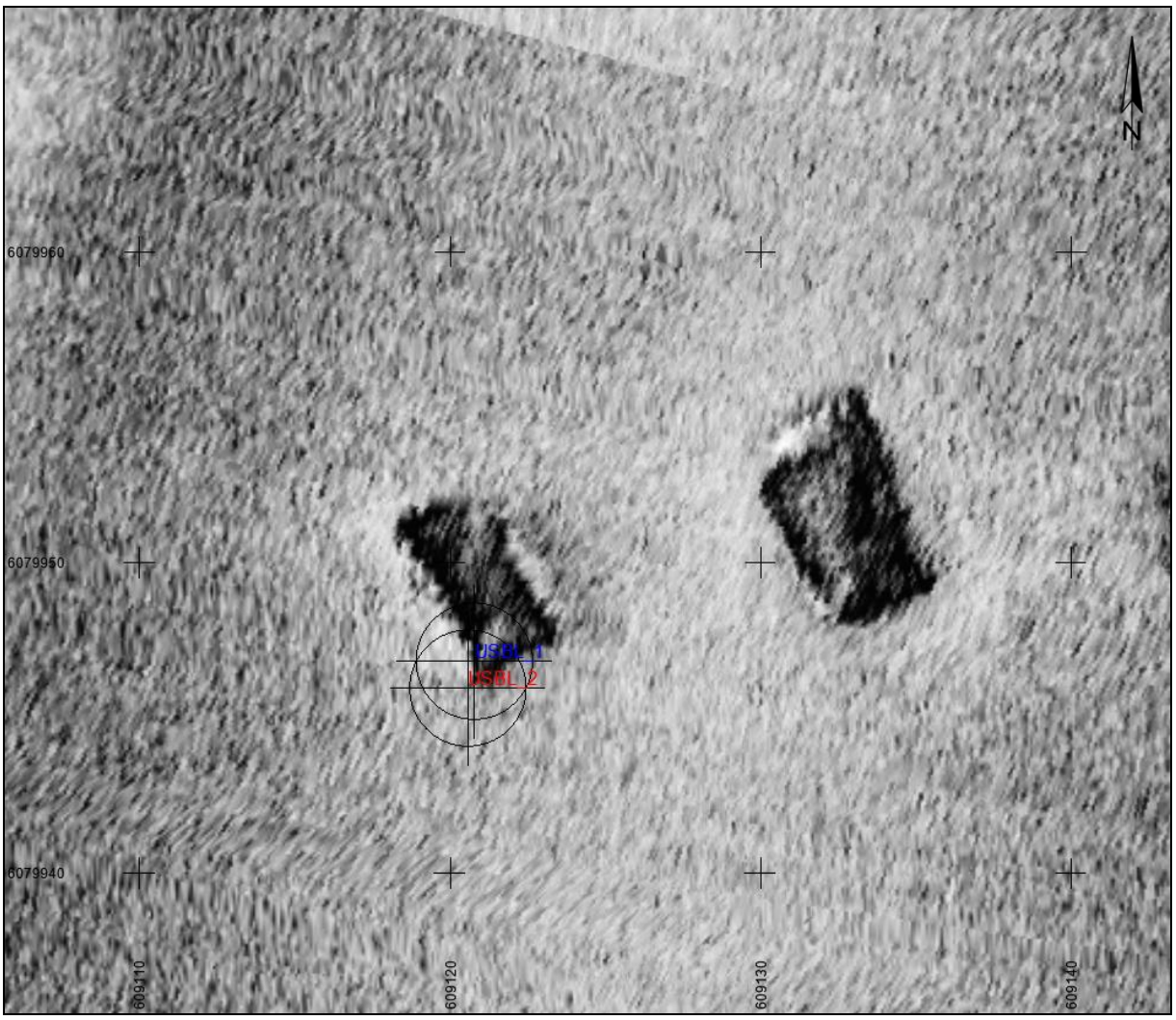


Figure 3: North-up side scan sonar mosaic showing both USBL verification data sets overlapping.

Two positions for the reference point were derived from the side scan sonar data. The side scan sonar tracks are shown in Figure 1 and the derived positions are listed in Table 2.

Table 2: SSS positions of the corner of the mattress

Datum ED50 UTM31N				
Location	**Easting [m]**	**Northing [m]**	**Latitude North**	**Longitude East**
USBL_1	609121	6079947	54° 51' 12.67''	004° 41' 58.81''
USBL_2	609121	6079946	54° 51' 12.64''	004° 41' 58.81''

An along track difference of 0.20 metres and an across track error of 0.87 metres were found between observed locations USBL_1 and USBL_2, which results in a range difference of 0.89 m. Differences between the observed locations are listed in Table 3.

Table 3: Differences between USBL_1 and USBL_2 on the corner of the mattress

Differences in USBL_1 and USBL_2 location				
Location	**dX [m]**	**dY [m]**	**Range [m]**	**Bearing [°]**
USBL_1 and USBL_2	0.20	0.87	0.89	193.21

5. CONCLUSION

Based on the obtained results, the USBL system was verified to be within the requested tolerance of 3 m and therefore deemed fit for survey.

6. HSE

No safety or HSE incidents were reported.

Signed:	T. Harrison		A. Fleet
	Party Chief (Fugro)		Client Representative (RVO)

A.14 USBL CALIBRATION MV VICTOR HENSEN

(2 pages, not numbered)

Project Details	
Project:	GH176
Vessel Name:	VH
Client:	RVO
Surveyors:	Linda Stewart James Hancock
Project Description:	Geophysical windfarm survey
Calibration Descrption:	20160319_GH176_USBL_Calibration_VH
Method / Units:	Least Squares / metres

BEFORE (Initial Settings)

		Beacon (estimate):	~SD:
Easting:		562,731.15 m	(10.00 m)
Northing:		5,784,283.74 m	(10.00 m)
Depth:		23.00 m	(3.00 m)
Transducer Offset:			
X:		2.73 m	(0.50 m)
Y:		0.92 m	(0.50 m)
Depth:		8.06 m	(0.50 m)
Sound Velocity:			
USBL:		1,475.00 m/s	(5.00 m/s)
Attitude Corrections:			
Starfix:	Pitch:	0.00 °	(*.**)
	Roll:	0.00 °	(*.**)
	Orientation:	0.00 °	(*.**)
Sonardyne:	Pitch:	0.00 °	(*.**)
	Roll:	0.00 °	(*.**)
	Heading:	0.00 °	(*.**)
APOS:	Pitch:	0.00 °	(*.**)
	Roll:	0.00 °	(*.**)
	Gear:	0.00 °	(*.**)

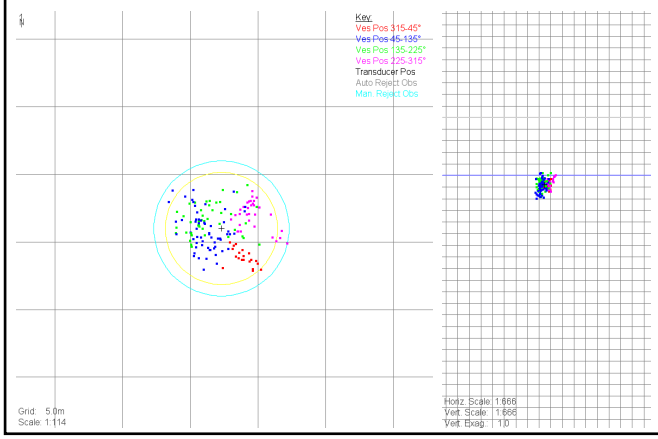
(Sonardyne and APOS corrections listed for convention)

AFTER (Results of Calibration)

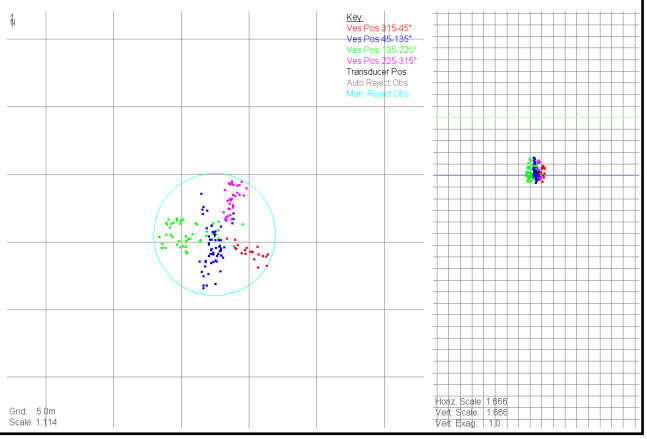
		Beacon (box in):	SD:
Easting:		562,727.56 m	(0.03 m)
Northing:		5,784,280.48 m	(0.04 m)
Depth:		23.55 m	(0.36 m)
Transducer Offset:			
X:		2.73 m	(*.**)
Y:		0.92 m	(*.**)
Depth:		8.06 m	
Sound Velocity:			
USBL:		1,459.06 m/s	(*.**)
ScaleFactor:		0.98919	
Attitude Corrections:			
Starfix:	Pitch:	1.70 °	(0.14 °)
	Roll:	-1.21 °	(0.37 °)
	Orientation:	0.53 °	(0.07 °)
Sonardyne:	Pitch:	1.70 °	(0.14 °)
	Roll:	-1.21 °	(0.37 °)
	Heading:	-0.53 °	(0.07 °)
APOS:	Pitch:	-1.70 °	(0.14 °)
	Roll:	1.21 °	(0.37 °)
	Gear:	0.53 °	(0.07 °)

Iterations:	Obs Accepted:	Obs Rejected:
9	156	532

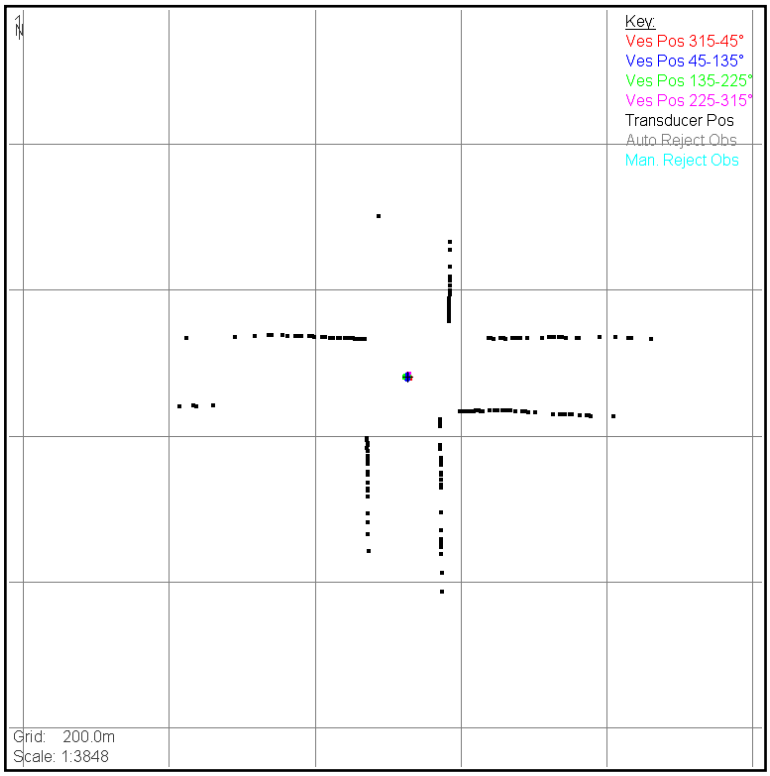
Scatter Before:



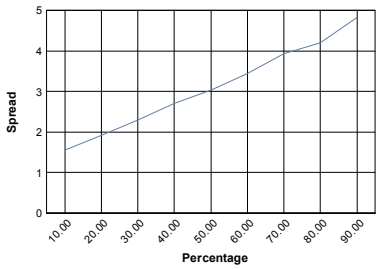
Scatter After:



Vessel Track:



Position Spread After



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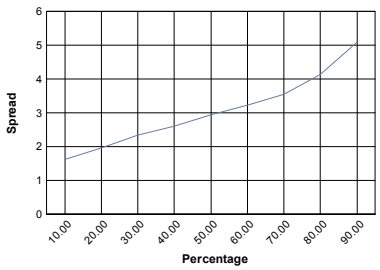
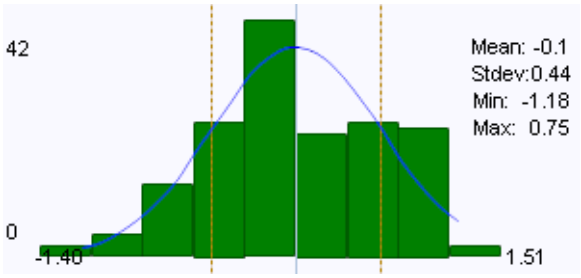
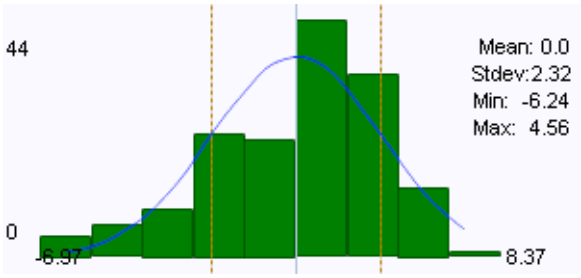


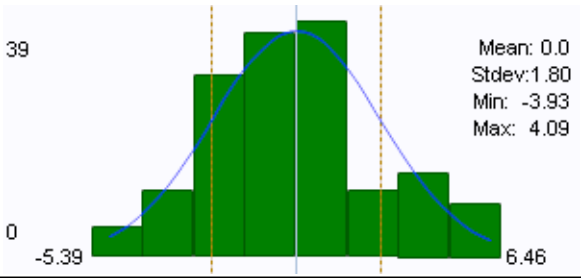
Range Residual



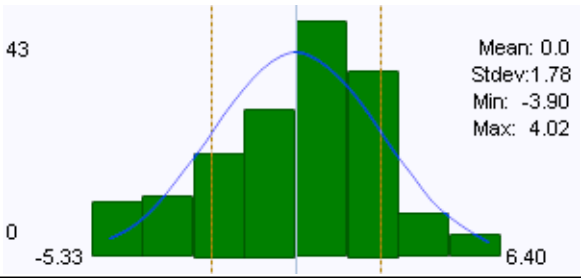
Z Residual



X Residual



Y Residual



A.15 USBL VERIFICATION MV VICTOR HENSEN

(4 pages, not numbered)

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USBL / SSS system verification report

Subject	USBL System Verification		
Date	21-03-2016	**Page**	1 of 4
To	P.P. Lebbink	**File**	GH176_USBL_Verification_VictorHensen
Attn		**E-mail Address**	
Copy		**E-mail Address**	
Copy		**E-mail Address**	
From	L. de Haan	**E-mail Address**	fsbvfieldops15@fugro.com

1. INTRODUCTION

The purpose of the USBL verification was:

- To determine the accuracy of the USBL system in conjunction with the SSS system

2. SCOPE OF WORK

The verification consisted of running two sidescan sonar lines in opposite directions over the subsea completion P15-10S. Table 1 shows the details of the centre position of the P15-10S subsea completion.

Table 1: P15-10S subsea completion location centre coordinates

Datum ETRS89 UTM31N				
Location	**Easting [m]**	**Northing [m]**	**Latitude North**	**Longitude East**
P15-10S subsea completion	558217	5790655	52° 15’ 47.5”	003° 51’ 10.9”

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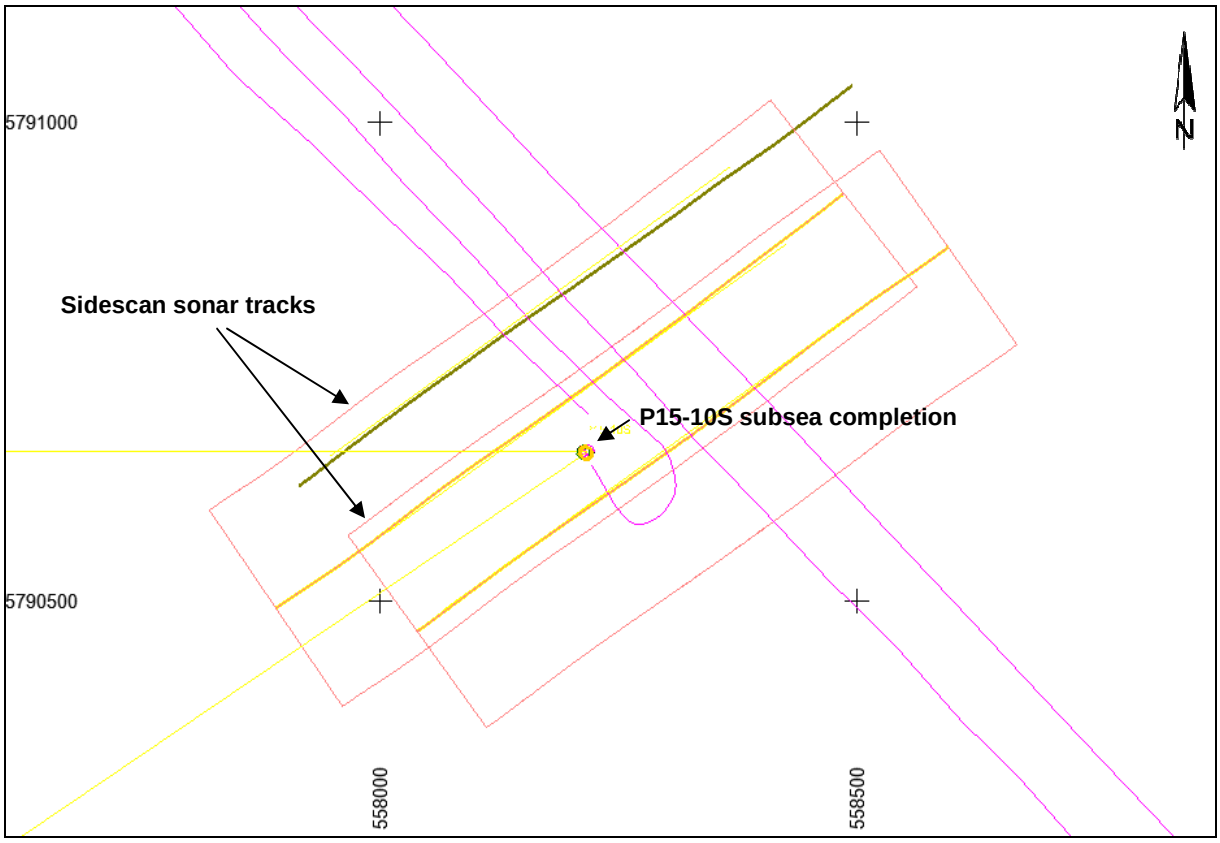

Figure 1: North-up sidescan sonar tracks at USBL verification location. In magenta and yellow sealines at the proximity of the P15-10S subsea completion

3. OPERATIONS

The verification was carried out onboard the vessel MV Victor Hensen on 20th March 2016.

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2260 AC Leidschendam, The Netherlands
Trade Register Number: 34070322 / VAT Number: NL005621409B11

4. RESULTS

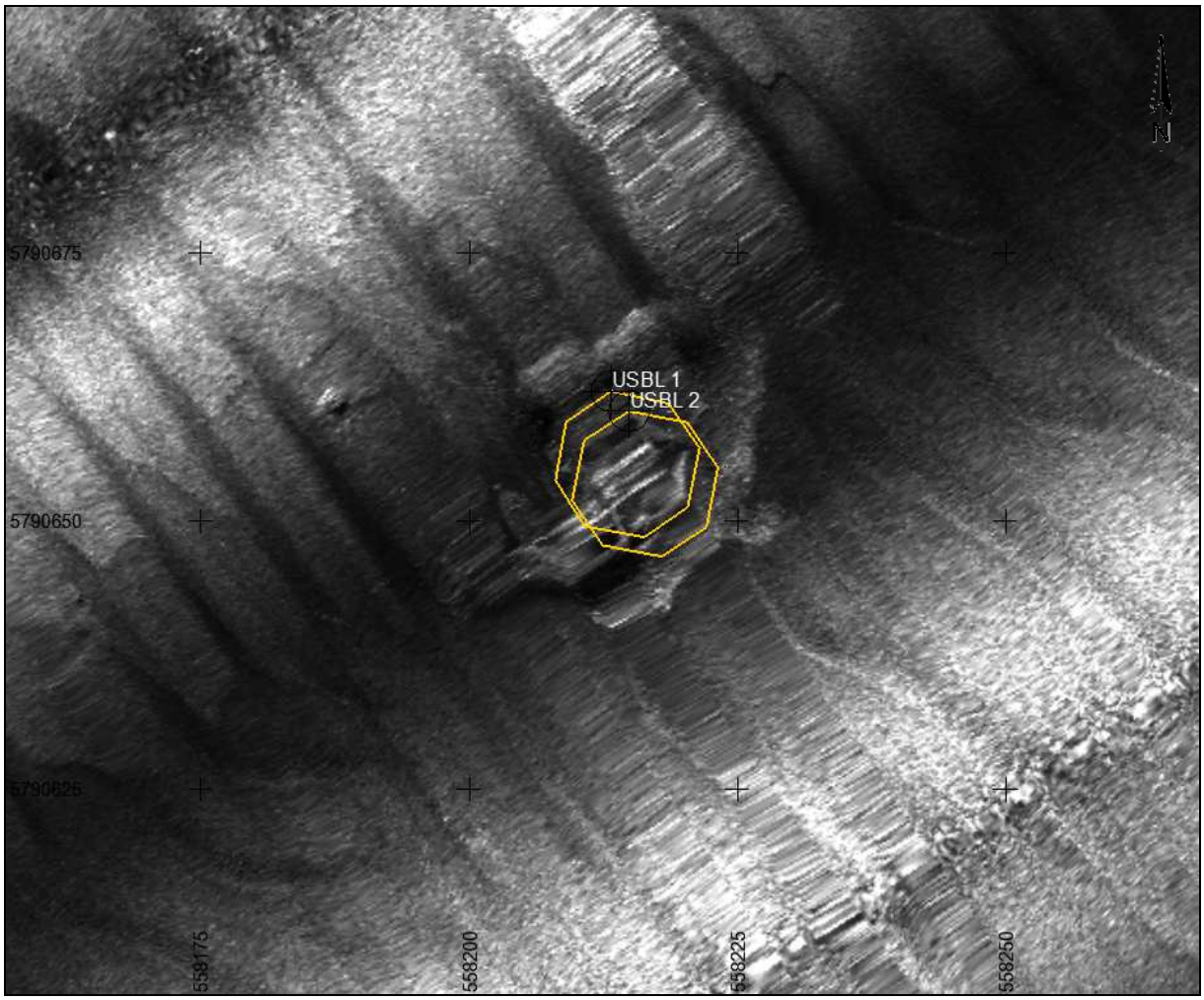

Figure 2: North-up sidescan sonar mosaic showing both USBL verification data sets overlapping. Yellow octagons display the observed position of the P15-10S subsea completion

Two positions for the reference point (USBL 1 and USBL 2) were derived from the sidescan sonar data. The sidescan sonar tracks are shown in Figure 1 and the derived positions are listed in Table 2.

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Table 2: SSS positions of the corner of the mattress

Datum ETRS89 UTM31N				
Location	**Easting [m]**	**Northing [m]**	**Latitude North**	**Longitude East**
USBL_1	558213	5790662	52° 15' 47.73''	003° 51' 10.73''
USBL_2	558215	5790660	52° 15' 47.67''	003° 51' 10.84''

A dX difference of 1.66 m and a dY difference of -1.88 m were found between observed locations USBL_1 and USBL_2, which results in a range difference of 2.51 m. Differences between the observed locations are listed in Table 3.

Table 3: Differences between USBL_1 and USBL_2 location

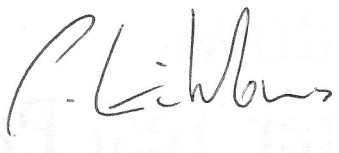
Differences in USBL_1 and USBL_2 location				
Location	**dX [m]**	**dY [m]**	**Range [m]**	**Bearing [°]**
USBL_1 and USBL_2	1.66	-1.88	2.51	138.48

5. CONCLUSION

Based on the obtained results, the USBL system was verified to be within the requested tolerance of 3 m and therefore deemed fit for survey.

6. HSE

No safety or HSE incidents were reported.

Signed:	L. de Haan		P. Kitlowski
	Party Chief		Client Representative
	(Fugro Survey)		(RVO)

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A.16 SPARKER CONFIGURATION TRIALS MV FUGRO PIONEER

(39 pages, not numbered)

Fugro Survey B.V.

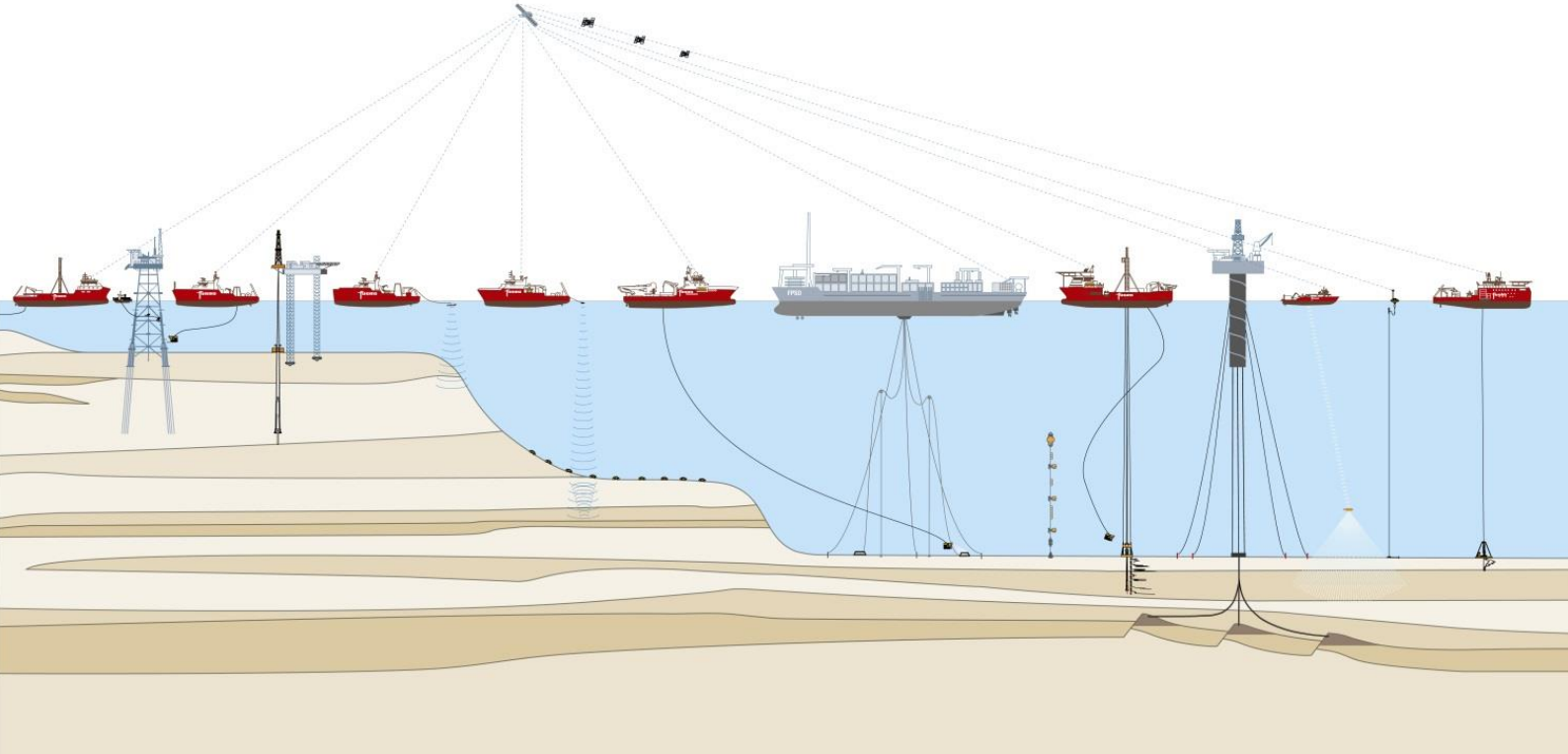
Netherlands Enterprise Agency
Rijksdienst voor Ondernemend Nederland (RVO)
Hollandse Kust (zuid) Wind Farm Zone

Dutch Continental Shelf, North Sea

Sparker Configuration Test Report

Fugro Project No.: GH176

Netherlands Enterprise Agency



Prepared by: Fugro Survey B.V.
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Phone +31 70 3111800
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E-mail: FSBVinfo@fugro.com
Trade Register Nr: 34070322 / VAT Nr: 005621409B11

Prepared for: Ministerie van Economische Zaken
Rijksdienst voor Ondernemend Nederland (RVO)
Prinses Beatrixlaan 2
2595 AL The Hague

F	Issue for Approval	R. Knook / R. Nieboer	R. Nieboer / T. Harrison	T. Harrison	15 March 2016
Rev	**Description**	**Prepared**	**Checked**	**Approved**	**Date**

CONTENTS

Page

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1. INTRODUCTION

This report contains a summary of the tests of the sparker systems on board the MV Fugro Pioneer at the start of the site study for the Hollandse Kust (zuid) Wind Farm Zone and is part of the mobilisation sea trials for this project.

The report includes details of the sparker systems, signature tests, test lines run, processing undertaken, discussion of the results and recommendation.

The tests took place on site on 12 and 13 March 2016 and preliminary processing was concluded on 14 March 2016.

2. SPARKER SYSTEMS ON BOARD

Three sparker systems were on board for testing:

1) Geo-Resources 100-tip Sparker and Geo-Resources Geo-Spark 1000 1 kJ power supply for use with a single-channel, 8- or 24 elements streamer, recorded on Fugro's Glog system.

2) GSO 360-tip Sparker for use with an Applied Acoustics CSP-N 2400 2.4 kJ or Geo-Resources Geo-Spark 1000 1 kJ power supply and 48-channel Geometrics solid streamer, recorded on a Geometrics GEOEEL CNT2 multi-channel recorder.

3) GSO 540-tip dual-frequency Sparker for use with an Applied Acoustics CSP-N 2400 2.4 kJ power supply and 48-channel Geometrics solid streamer, recorded on a Geometrics GEOEEL CNT2 multi-channel recorder.

The 150 m Geometrics solid streamer comprised 48 channels, group length 3.125 m, each group composed of 4 hydrophone sensors with a streamer sensitivity of 20μV/μb.

Sparker system 1) and 2) were intended to be used in 'flip-flop' configuration, where the data from the 360-tip sparker is recorded on the 48-channel system in half fold and the 100-tip sparker data on the single channel system, both every 3.125 m, producing half fold multi-channel data.

Sparker system 3) is a dual frequency sparker, featuring 180 shallow tips and 360 deeper tips, firing at the same time with different power settings, frequencies and depths below surface to have similar data-sets as the combined configuration 1) and 2), but fired at 1.56 m and hence resulting in full fold data.

3. HARBOUR TRIALS

Harbour trials of the sparker systems on board were performed in Scheveningen Harbour during mobilisation and comprised endurance testing and signature recording. The sparker frames without floatation buoys were suspended from one of the A-frames on the back deck of the MV Fugro Pioneer.

The signatures were recorded with the sparker source stationary at 3 m below sea surface and a Neptune D70 reference hydrophone at 1 m below it, hence presenting the primary pulse without surface ghost. Water depth was around 8 m, tide depending.

For each sparker source, all workable energy settings were tested and about 100 shots per setting were recorded. These shots were stacked and an overview of the stacked traces per source is presented in Figure 3.1 to Figure 3.4. 'Workable' in this context means energy levels high enough to create a spark and low enough to allow the power supply to fully charge between shots.

It is concluded that the primary negative pulse of the 100-tip sparker has relatively high amplitude at low power settings and a broad, low-amplitude positive bubble pulse.

Compared to the 100-tip source, the primary pulse of the 180-tip sparker is wider and the amplitude is lower with a less pronounced and shorter positive bubble pulse.

The 360-tip source is different in the sense that the positive bubble pulse is pronounced and shows about half the amplitude and double the width of the primary.

The 540-tip source is physically a combined 180- and 360-tip source and the signature is effectively the sum of the contributing elements.

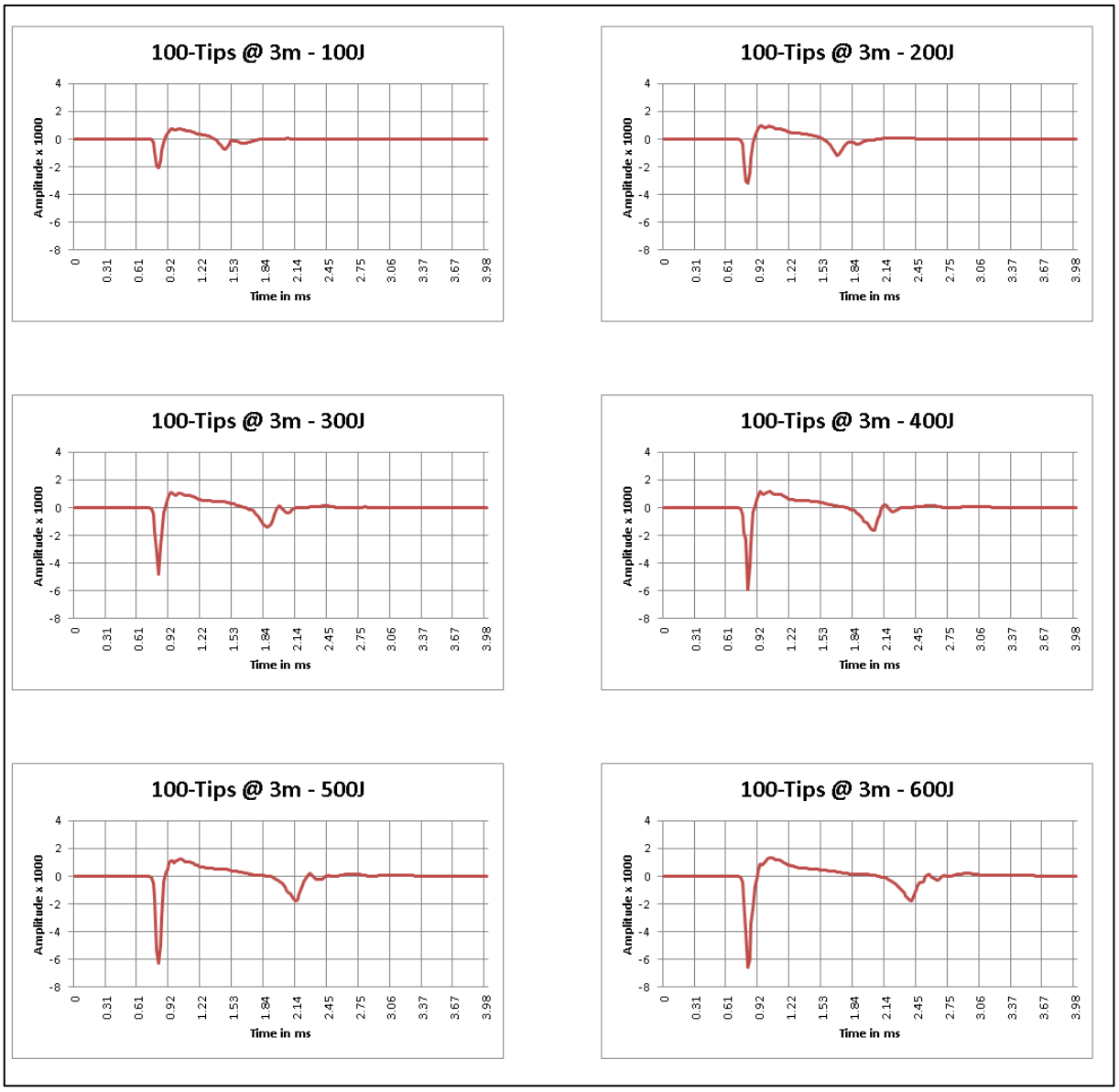


Figure 3.1: Sparker signatures – GSO 100-tip Sparker source at 3 m depth

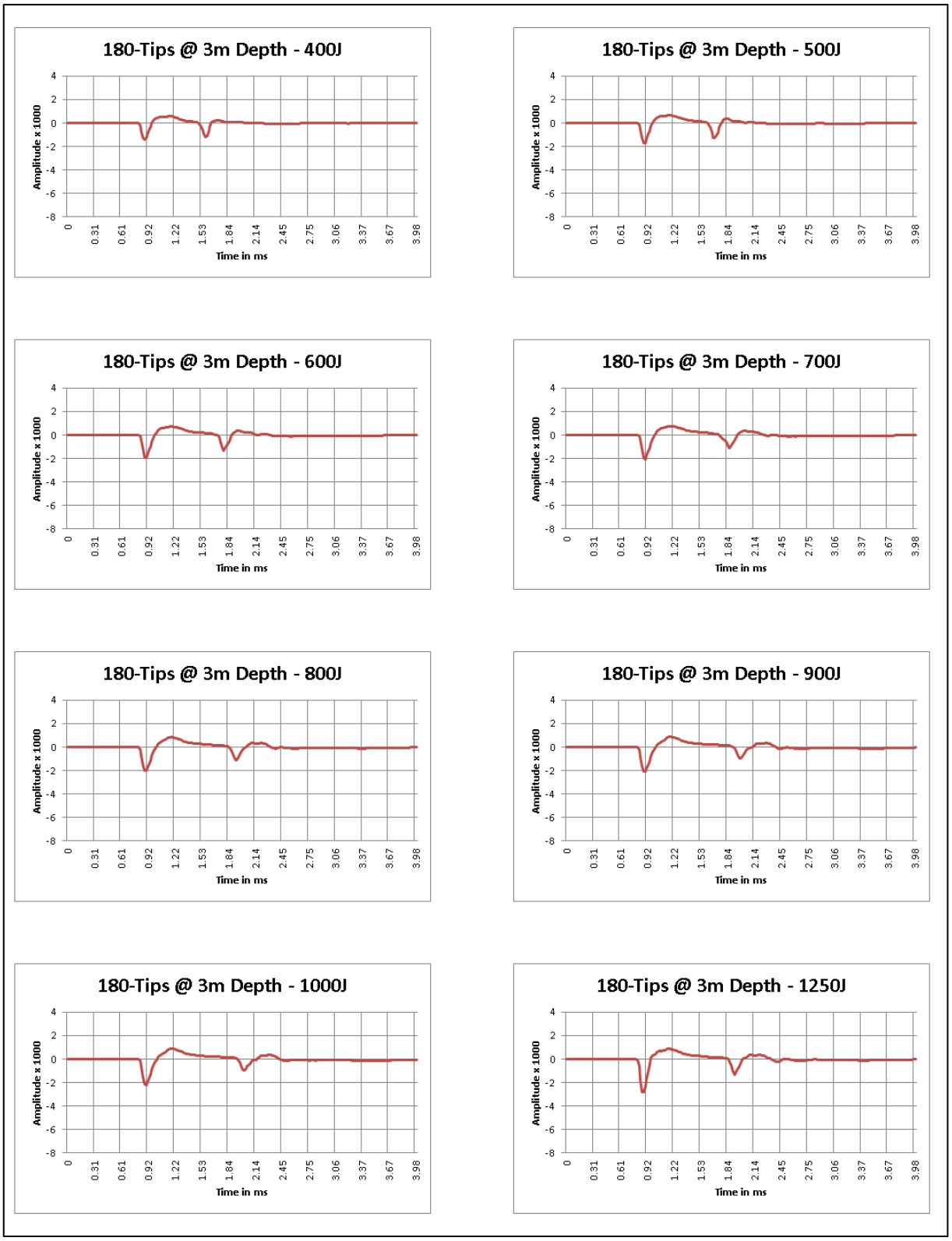


Figure 3.2: Sparker signatures – GSO 180-tip Sparker source at 3 m depth

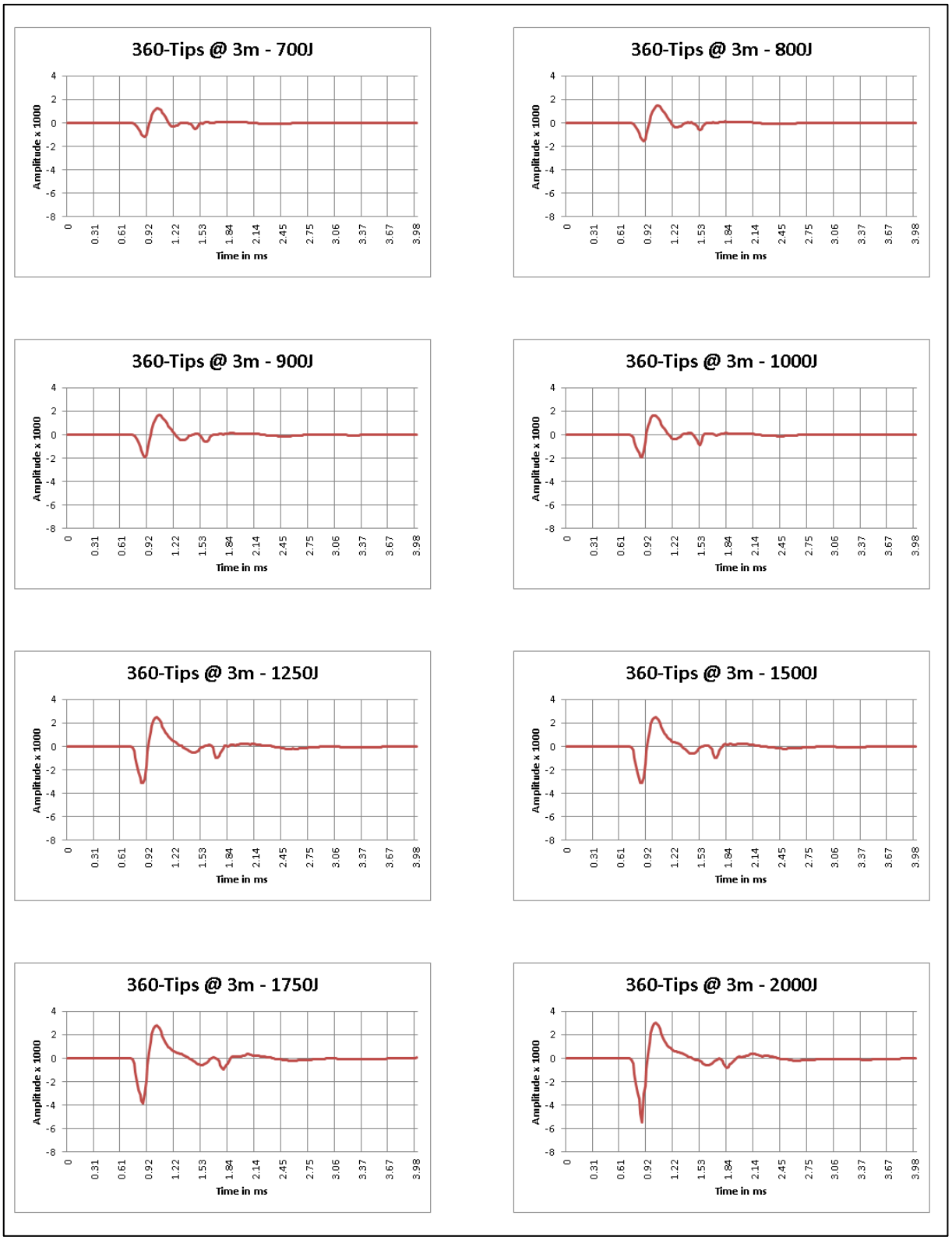


Figure 3.3: Sparker signatures – GSO 360-tip Sparker source at 3 m depth

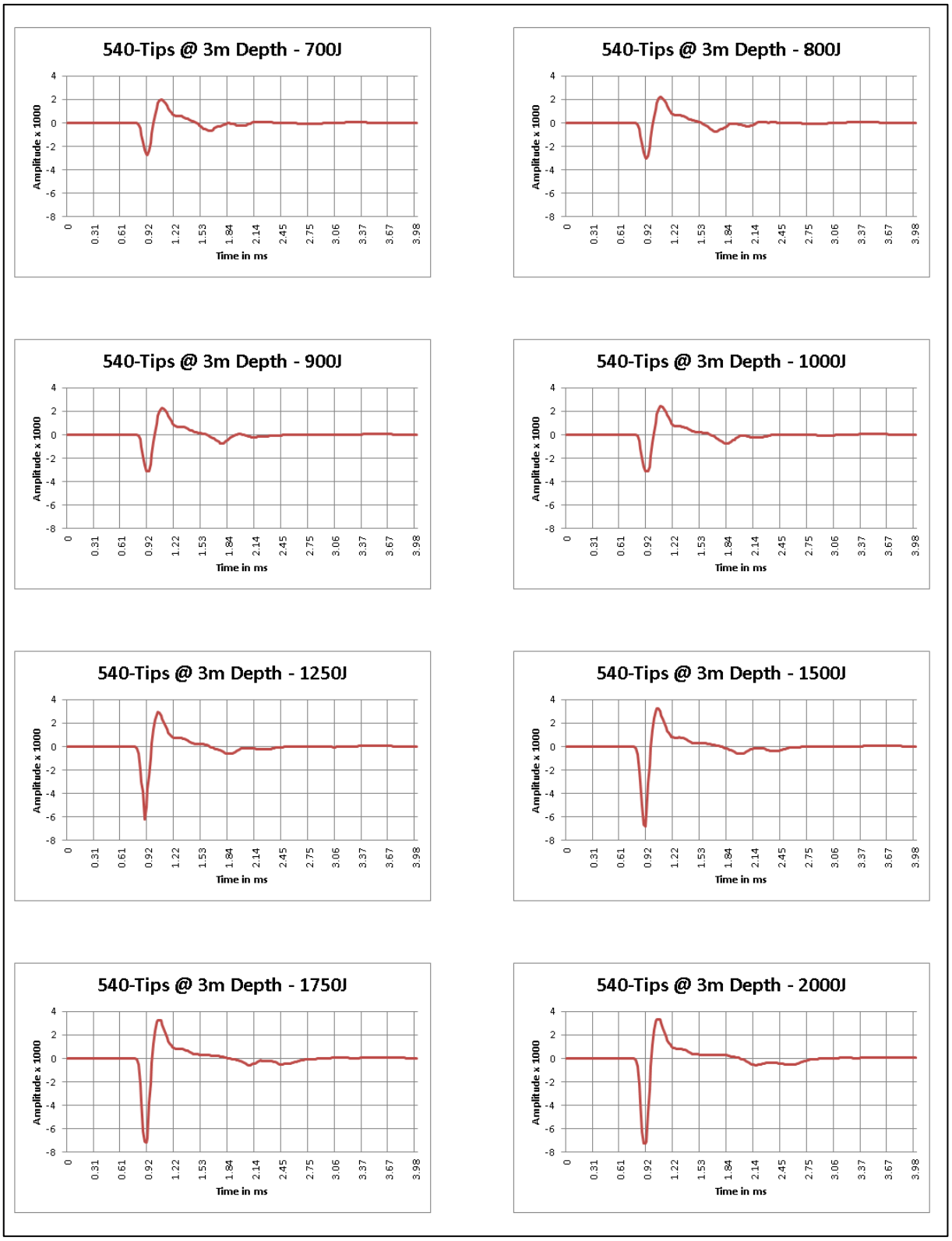


Figure 3.4: Sparker signatures – GSO 540-tip Sparker source at 3 m depth

4. OFFSHORE TESTS

Source signature tests were performed in a static setup during mobilisation, as described previously in Section 3. However, the actual results in terms of resolution and penetration depend, apart from the input signature, also very much on the towing geometry of source and receiver, and on how constant this geometry can be maintained. 'Geometry' in this context means relative position and depth of source and receiver, and position relative to the vessel, which is influenced by vessel speed through the water, currents, weather etc.

Therefore, offshore tests are considered important to develop an understanding which system is best suitable to achieve required results.

4.1 Test location

Initial sea trials to prove functionality of the sparker systems revealed a shallow stratigraphy with hardly any stratification up to and over the required penetration depth. The seabed and shallow stratigraphy is believed to consist mainly of reworked sand without internal structures, which is confirmed by the lack of sub-bottom profiler penetration and is also described in a desktop study report based on vintage data by Deltares[1].

An exception to the homogeneous shallow section is a locally very strong reflector in the multiple-free window, generating strong multiples/peg-legs.

The above described sub-seabed sediments combined with the strong shallow reflector and virtual absence of deeper reflectors made qualitative testing of the systems challenging and not possible in the window of required penetration (around 150 ms below seabed). Test lines were therefore run over a section with faint reflectors around 180 ms below seabed and subsequent processing of the data is presented below in Table 4.1.

4.2 Tests performed

Each of the tests was around 3 km long and run in opposite directions over the same line. Weather conditions were suitable for testing, but two lines were re-run because of noisier conditions than on other lines. Such nosier conditions can be seen on part of test line TEST-540F, refer to Figure A.8.

Record length and short shot interval are chosen such that there is no interference between the data sets and no dropped shots due to short fire intervals.

The streamer was maintained at the required tow depth during acquisition, with streamer balance and the depth controlled and monitored by the Digicourse active leveller system communicating with two Digicourse 5011 compass birds and one Digicourse 5010 depth controller. The streamer

[1] Deltares report 1221136-000-BGS-0006, Geological study Hollandse Kust Zuid Wind Farm Zone. Presented are vintage seismic results acquired with acoustic sources with more energy and lower resolution. Deltares' comment is 'hardly any reflectors' in the shallow section, with reflectors present only below 125 m below seabed.

was decoupled from the vessel heave using an 8 m tow leader, a 25 m anti-vibration section and a 10 m stretch section. A small Norwegian buoy was towed from the end of the streamer.

The multi-channel data was sampled at 0.125 ms, with record length of 250 ms, while streamer depth, shot interval and power supply settings were varied per test line and are detailed in Table 4.1. Single channel data was sampled at 20 kHz with a record length of 120 ms.

The test results are presented as full page images, as shown in Figure A.3 to Figure A.10.

Table 4.1: Tests performed

Test No.	Line name	Configuration (sparker tip)	Source power (J)	Shot interval (m)	Streamer depth (m)	Heading (degrees)
1	TEST-360A	360	1000	3.13	0.4	206
2	TEST-360B	360	1000	3.13	0.4	026
3	TEST-360C	360	1000	1.56	0.7	206
4	TEST-360D	360	1000	1.56	0.7	026
5	TEST-540E	540	2400	3.13	0.4	206
6	TEST-540F	540	2400	3.13	0.4	026
7	TEST-540G	540	1250	1.56	0.4	206
8	TEST-540H	540	1250	1.56	0.4	026

5. GEOPHYSICAL CONSIDERATIONS

Sparker configurations 1) and 2) as defined in Section 2 are considered conventional and not described in further detail.

It is noted though that streamer depth is considered critical for data quality for all systems on both single-channel and multi-channel systems. Source depth is equally important, but generally well controlled.

Note that with different power settings the shape and length of the wavelet changes. Therefore, theoretically, each power setting has its specific source towing depth below surface during acquisition to achieve optimum constructive interference between primary pulse and surface ghost. The same reasoning holds for the ideal streamer depth.

The theoretically correct streamer depth is around 40 cm below surface at the head of the multi-channel streamer. This can be difficult to achieve and is very sensitive to weather conditions, with the possibility of the streamer surfacing for short periods of time, resulting in increased noise and data loss. This can be reduced by towing the streamer slightly deeper, at the cost of high frequency content (resolution). This is attempted in test no. 3 and 4 (Table 4.1). Depth is less of an issue with the far end of the streamer and should theoretically benefit from being deeper below the sea surface.

Generally, tail buoys and depth levellers tend to increase drag on the streamer, resulting in it being straight in the water, both laterally and vertically. Preferably though, the streamer is neutrally buoyant with no drag at all, allowing it to 'snake' through the water, auto-maintaining optimum depth below the sea surface, in troughs and below peaks of the waves. This is achieved by eliminating as much as possible the drag on the streamer and therefore, buoys and depth controllers are limited to a minimum.

The dual frequency sparker is intended to generate frequencies that are comparable to both a relatively high-frequency sparker and low-frequency sparker, similar to what is commonly found on tuned gun arrays in site survey and exploration seismic acquisition. Therefore, the sparker is engineered such that the high-voltage current distribution is different for shallow and deep tips, resulting in high-frequency signal from the shallow tips and low-frequency signal from the deep tips. The depth of the shallow and deep tips below sea surface is such that the surface ghosts positively interfere with the high- and low frequent wavelets respectively.

High frequency data from the dual frequency sparker can be recorded with a separate single channel streamer, or extracted from the multi-channel data set, using only the nearest channel or a few near channels. Single channel data (from single-channel streamer or multi-channel streamer) tends to be very weather sensitive. Multi-channel data allows for stacking of a few near channels, greatly enhancing signal-to-noise ratio without compromising resolution, if correct streamer depth is maintained.

6. PROCESSING

Processing was performed using GLOBE Claritas version 6.3 on a HP Linux workstation.

The brute stacks as shown in Figure A.1 and Figure A.2 generally do not show any significant or continuous reflectors below the first multiple.

Further processing parameter testing continued during data acquisition, but the preliminary processing flow adapted for the tests is presented below:

- Bandpass filtering
- De-spike
- Surface Related Multiple Elimination (SRME)
- Velocity Analysis
- Singular Value Decomposition (SVD) Demultiple
- Deconvolution after Stack (DAS)
- FX Prediction Filtering
- FK Filtering
- Kirchoff Migration
- Time Variant Filtering (TVF)
- Scaling

Further testing produced some improvements as shown in Figure A.3 to Figure A.10.

Frequency spectrum analyses of processed portions of the test lines are presented in Figure A.11 to Figure A.20. The spectra for the various settings of the 540-tip sparker are similar. The high-frequency part of the spectrum is filtered out (earth filter) within the first 70 ms, while signal with a centre frequency of 500 Hz penetrates the deepest parts of the section.

The centre frequency of the 100-tip sparker with single-channel streamer is higher than that of the 540-tip sparker with multi-channel streamer, even when the latter is processed to enhance the high frequencies. Therefore, the 100-tip sparker is better suited for high resolution data in the shallow section.

7. CONCLUSIONS AND RECOMMENDATIONS

Tests to confirm the results of a GSO 360-tip Sparker in combination with a GSO 100-tip Sparker in 'flip-flop' mode and a dual frequency GSO 540-tip Sparker have been performed to evaluate penetration and resolution of the acquired data.

Local geology in the survey area is quite homogenous with few significant reflectors at the required penetration depth. Therefore, tests were focussed on a reflector slightly deeper in order to guarantee sufficient penetration.

It was determined that the GSO 540-tip Sparker performed better in terms of penetration and with sufficient resolution than the GSO 360-tip Sparker. In addition signal-to-noise ratio and reflector continuity were considerably enhanced. It was therefore recommended to utilise the GSO 540-tip dual frequency Sparker for multi-channel recording.

The GSO 100-tip Sparker and single-channel streamer can perform slightly better in terms of resolution in the shallow, multiple-free part of the record in comparison with the high-frequency part of the GSO 540-tip dual-frequency Sparker, as shown in Figure A.19 and Figure A.20. Note though, that no reflectors are detected with the GSO 100-tip Sparker data that are not also seen on data from the 540-tip source.

It is noted that the GSO 100-tip Sparker data is weather sensitive and deteriorates quickly under slightly noisier conditions. The high-frequency part of the GSO 540-tip Sparker is less sensitive due to a more stable sledge and the possibility to stack traces and enhance the signal-to-noise ratio.

In ideal weather conditions the use of the GSO 540-tip Sparker together with the GSO 100-tip Sparker and single channel streamer in a 'flip-flop' configuration is recommended. Under less favourable conditions, high-frequency data extracted from the 540-tips system could be used.

Due to limited tow points the GSO 100-tip Sparker, when used in the dual sparker option, was towed with little lateral separation from the SSS tow point. As a result of the shallow water depth in the survey area the layback of the SSS and piggybacked magnetometer is similar to the layback required for the GSO 100-tip Sparker. Consequently, interference is seen on both the SSS and magnetometer data as shown in Figure A.21.

It was therefore recommended to tow both sparker systems on the same side of the vessel, which increased the lateral distance between them and the SSS/magnetometer system. In this setup. the GSO 100-tip Sparker and single-channel receiver were towed from a boom on the starboard side thereby increasing the lateral distance between the two sparker systems.

APPENDICES

A. FULL PAGE IMAGES

A. FULL PAGE IMAGES

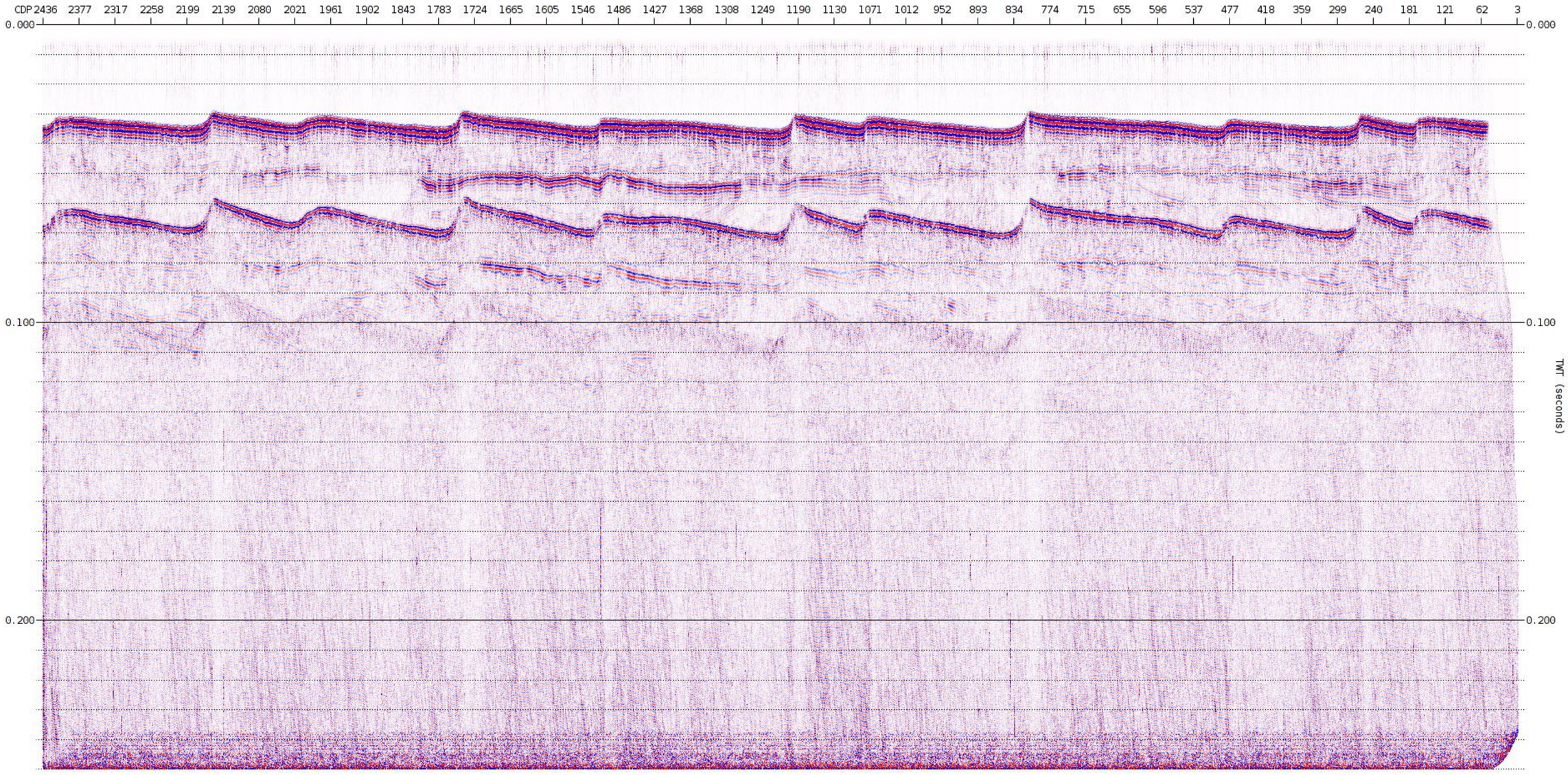


Figure A.1: Brute stack TEST-360D

GSO 360-tip Sparker at 1000 J, 3.125 m shot interval, streamer depth 0.7 m, heading 026 degrees.

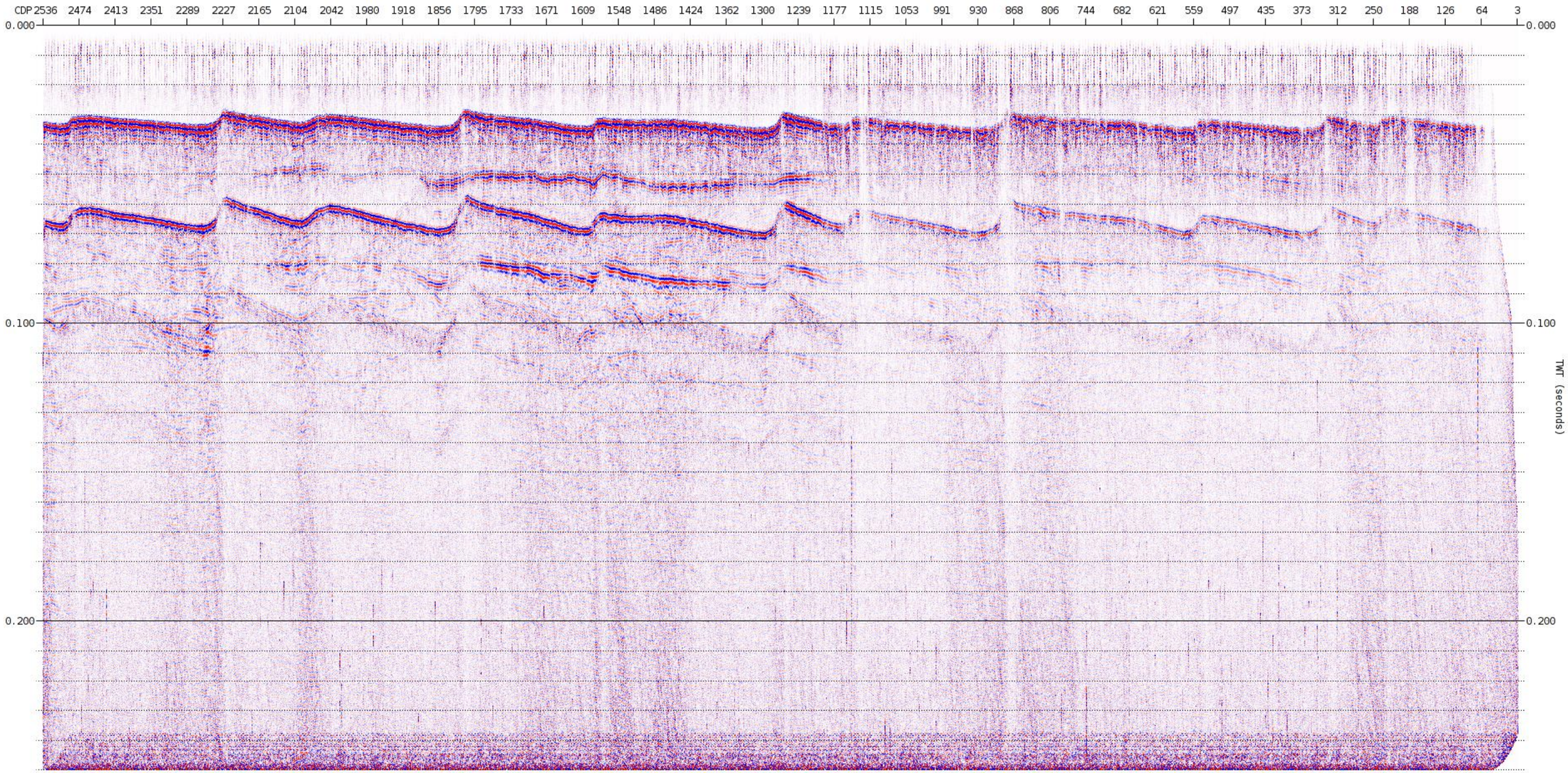


Figure A.2: Brute stack TEST-540F

GSO 540-tip Sparker at 1250 J, 1.56 m shot interval, streamer depth 0.4 m, heading 026 degrees.

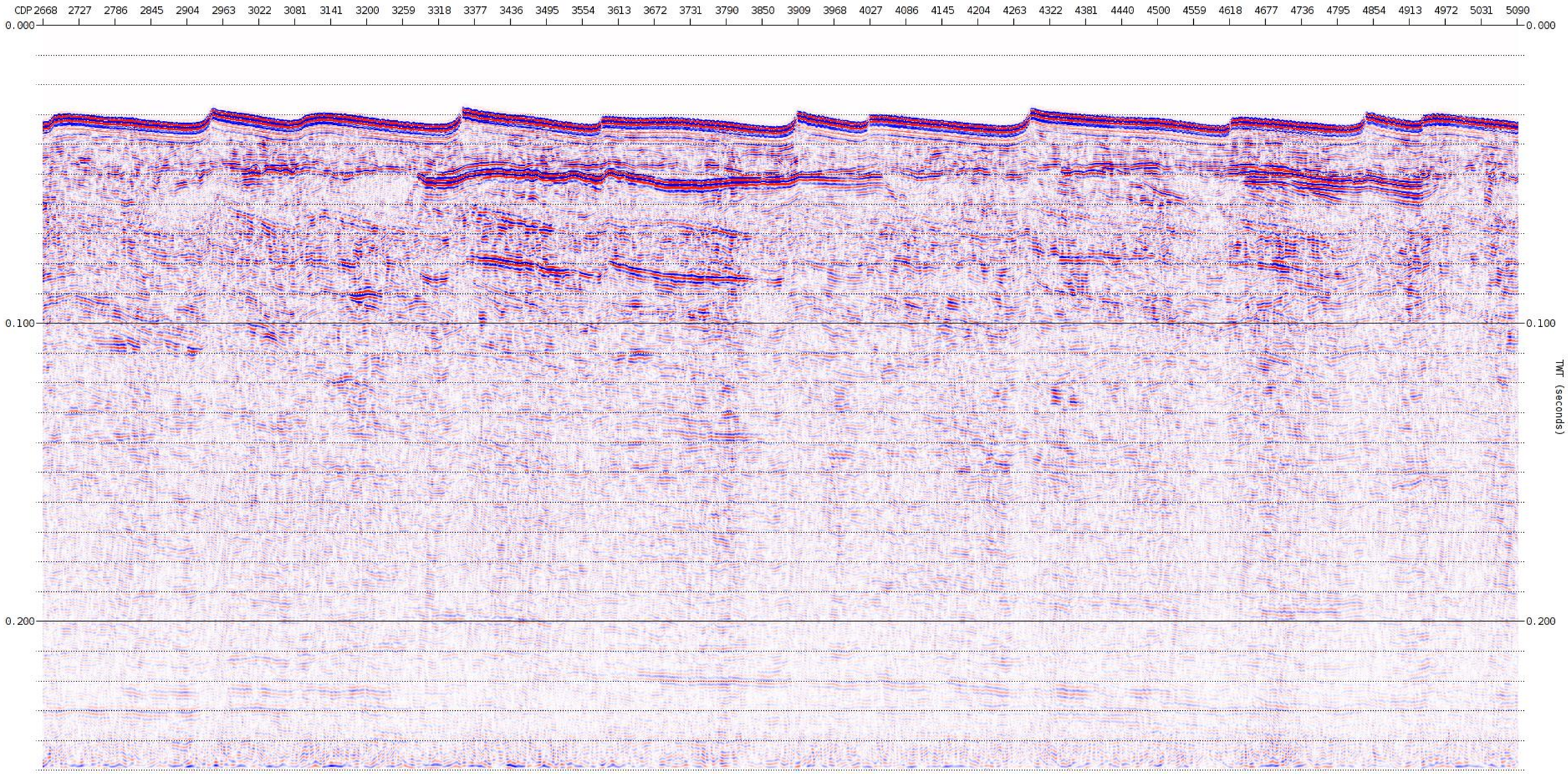


Figure A.3: Migrated stack TEST-360A

GSO 360-tip Sparker at 1000 J, 3.125m shot interval, streamer depth 0.4 m, heading 206 degrees.

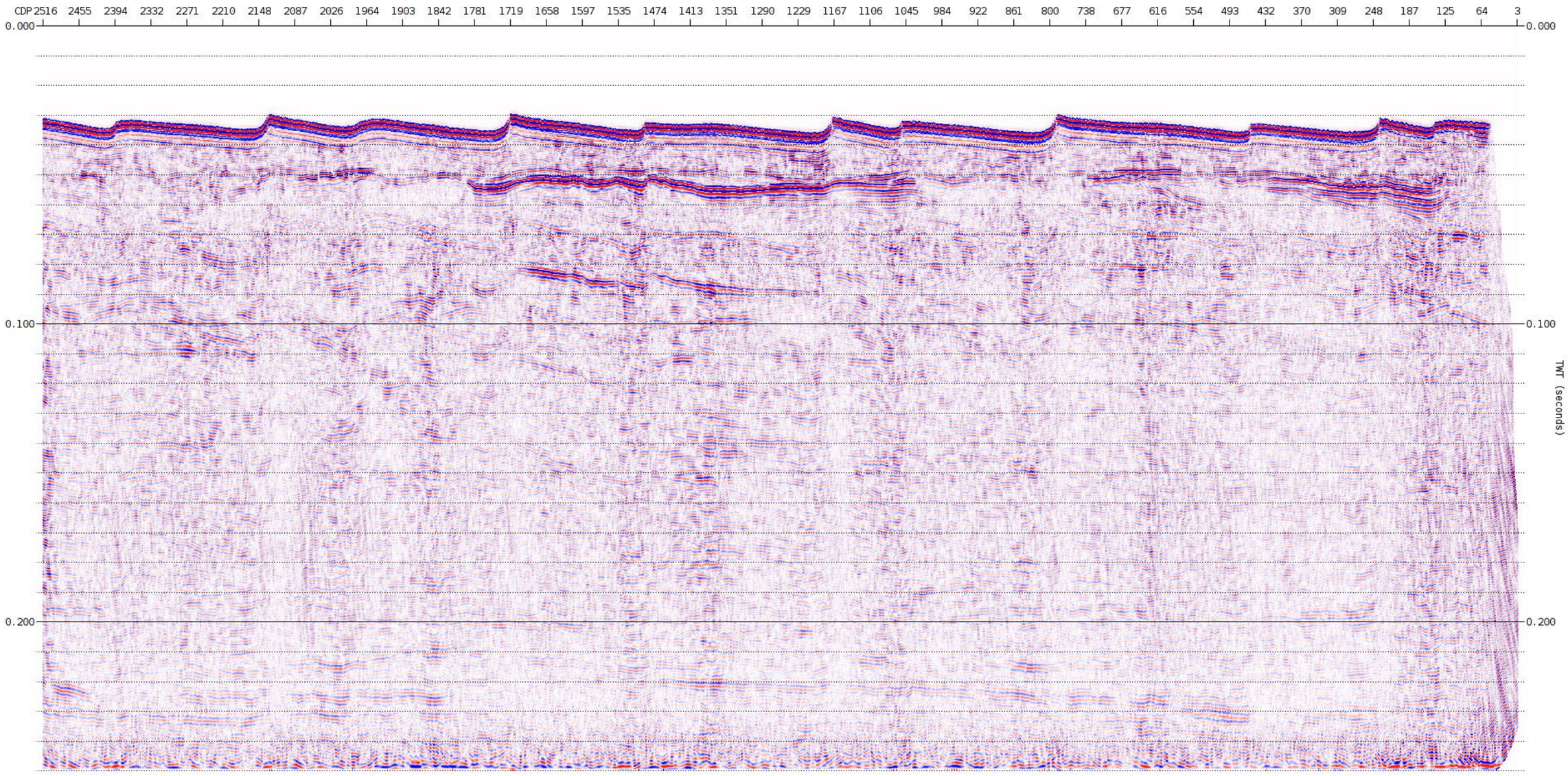


Figure A.4: Migrated stack TEST-360B

GSO 360-tip Sparker at 1000 J, 3.125 m shot interval, streamer depth 0.4 m, heading 026 degrees.

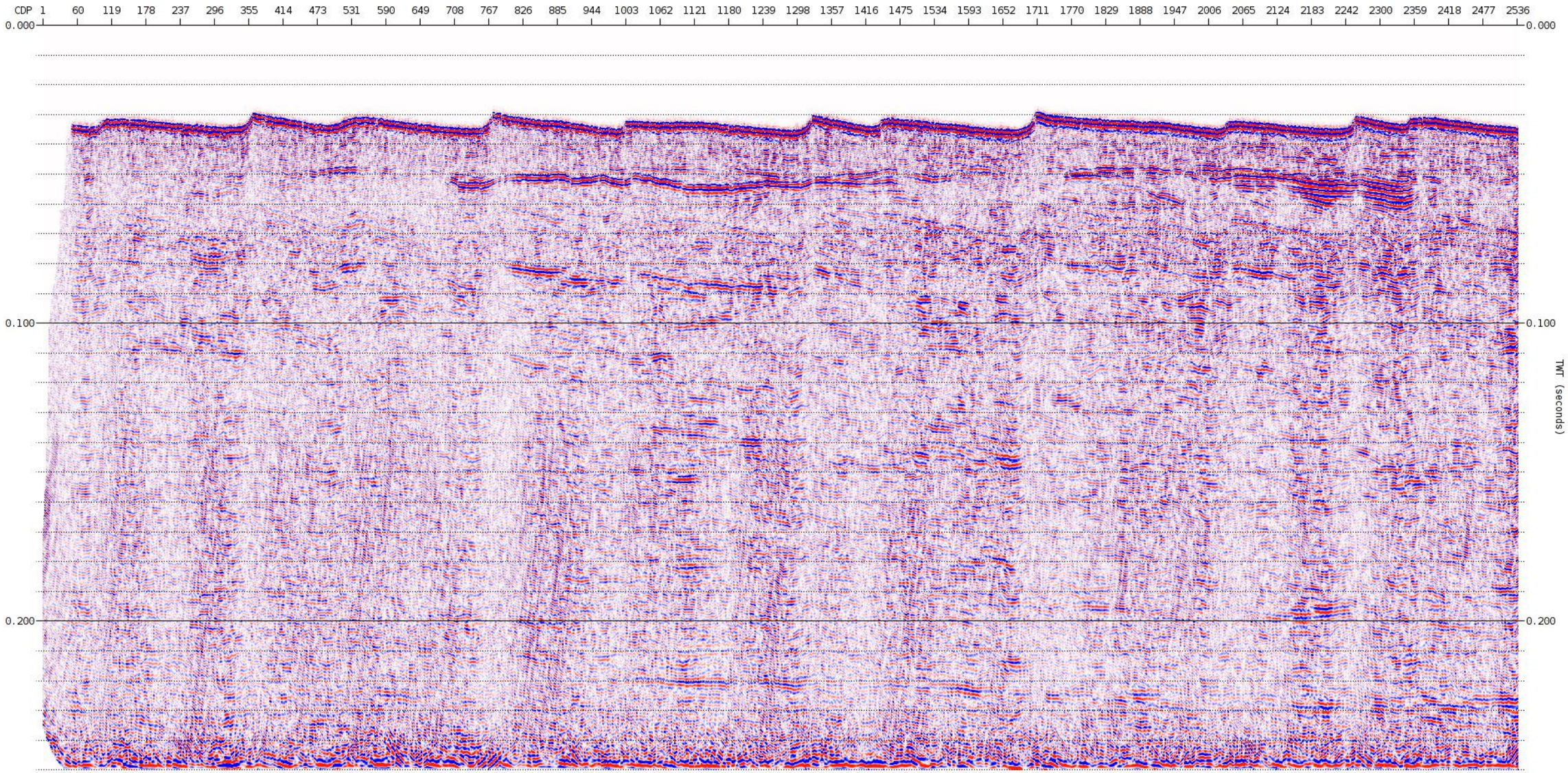


Figure A.5: Migrated stack TEST-360C

GSO 360-tip Sparker at 1000 J, 3.125 m shot interval, streamer depth 0.7 m, heading 206 degrees.

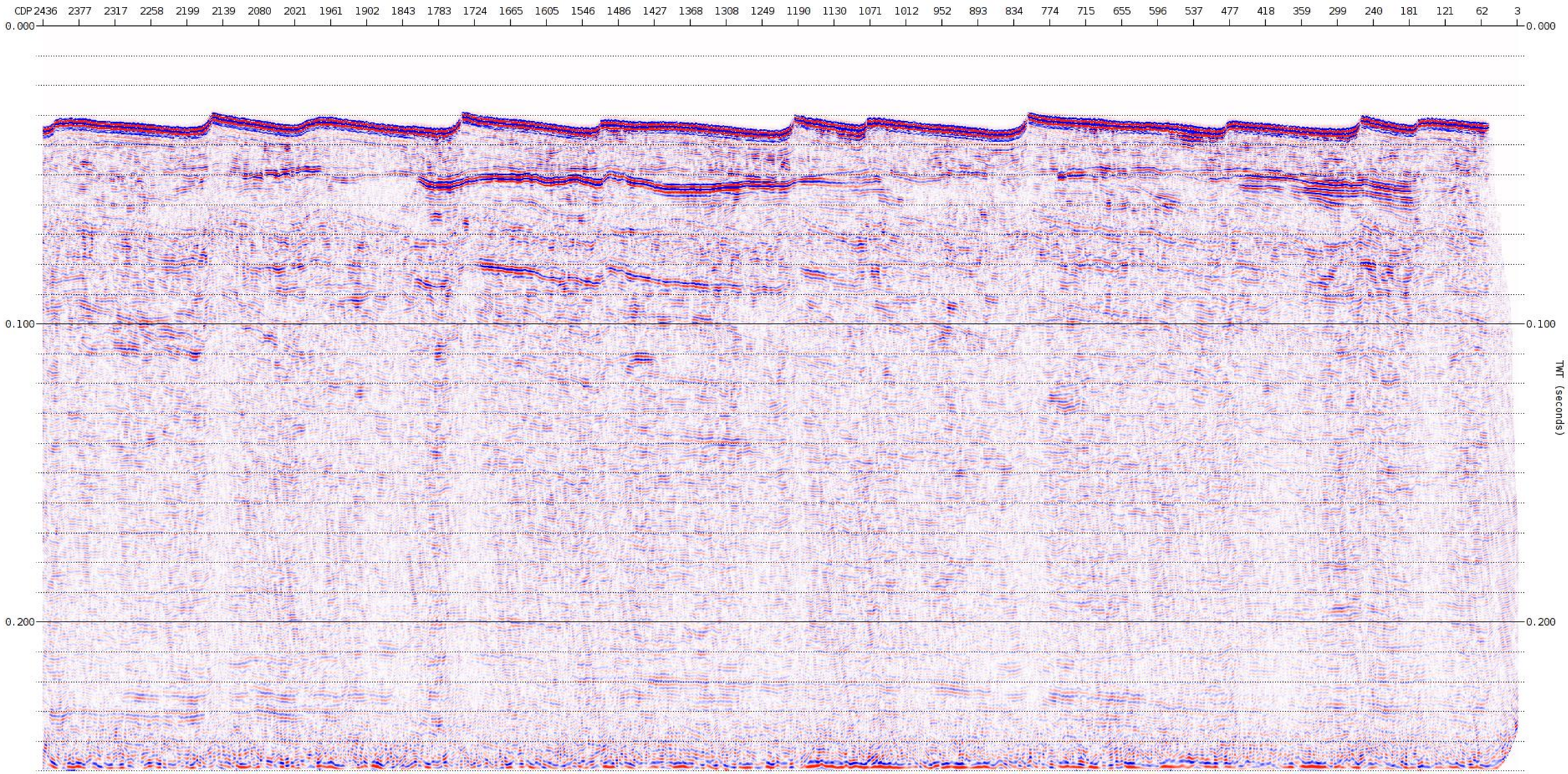


Figure A.6: Migrated stack TEST-360D

GSO 360-tip Sparker at 1000 J, 3.125 m shot interval, streamer depth 0.7 m, heading 026 degrees.

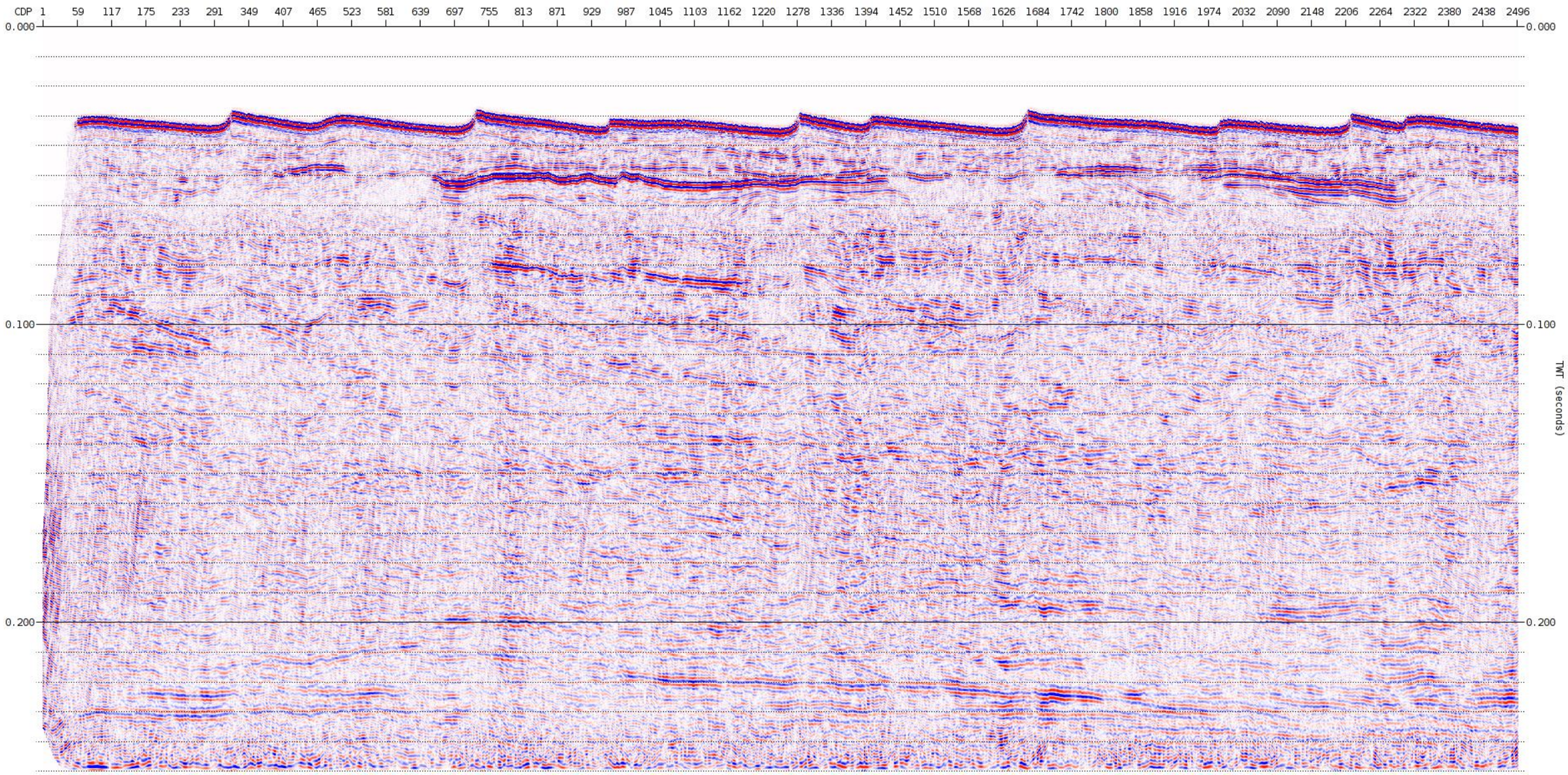


Figure A.7: Migrated stack TEST-540E

GSO 540-tip Sparker at 1250 J, 1.5625 m shot interval, streamer depth 0.4 m, heading 206 degrees.

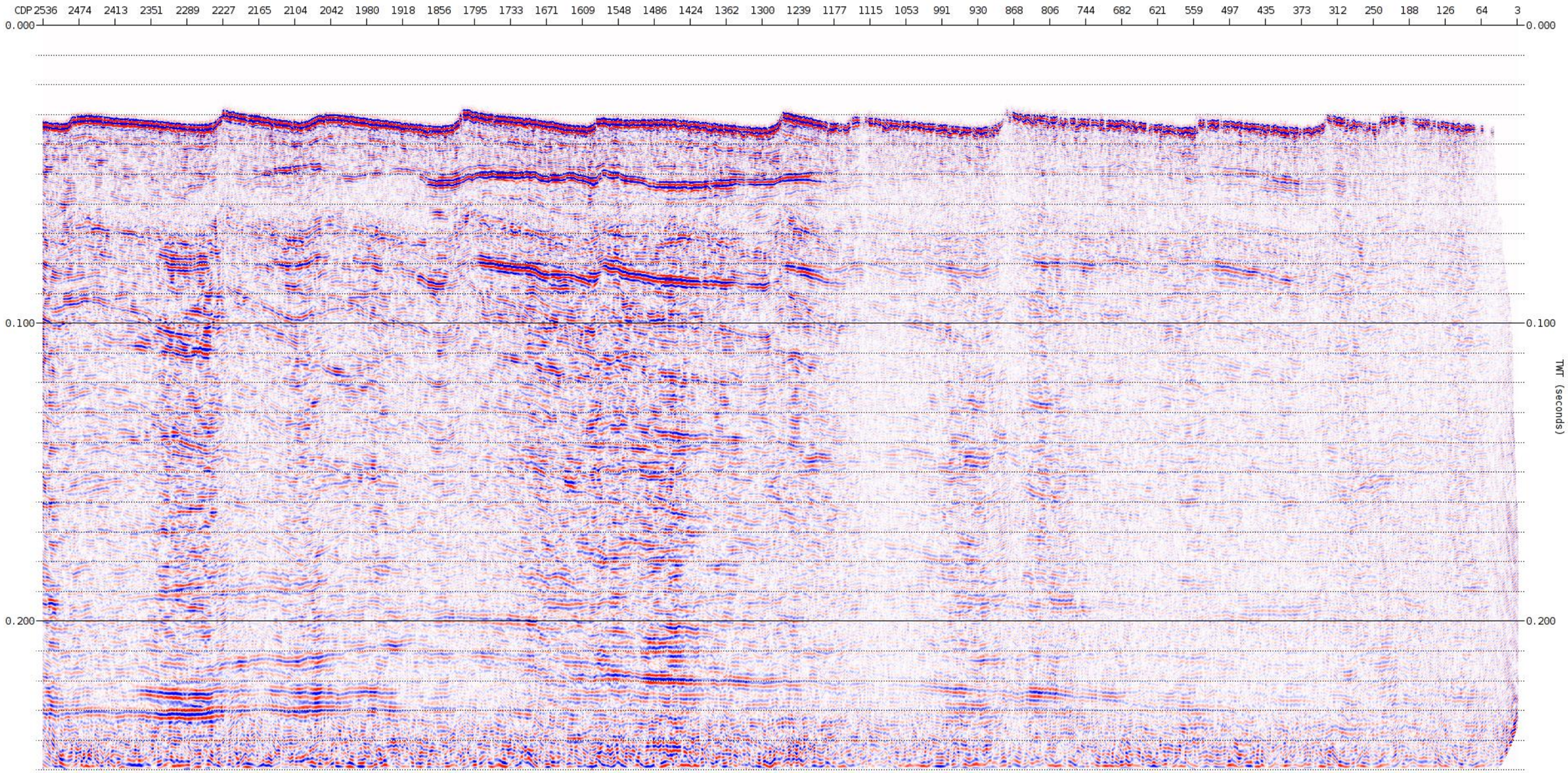


Figure A.8: Migrated stack TEST-540F

GSO 540-tip Sparker at 1250 J, 1.5625 m shot interval, streamer depth 0.4 m, heading 026 degrees.

*Note: The right-hand side of the figure is affected by weather conditions.

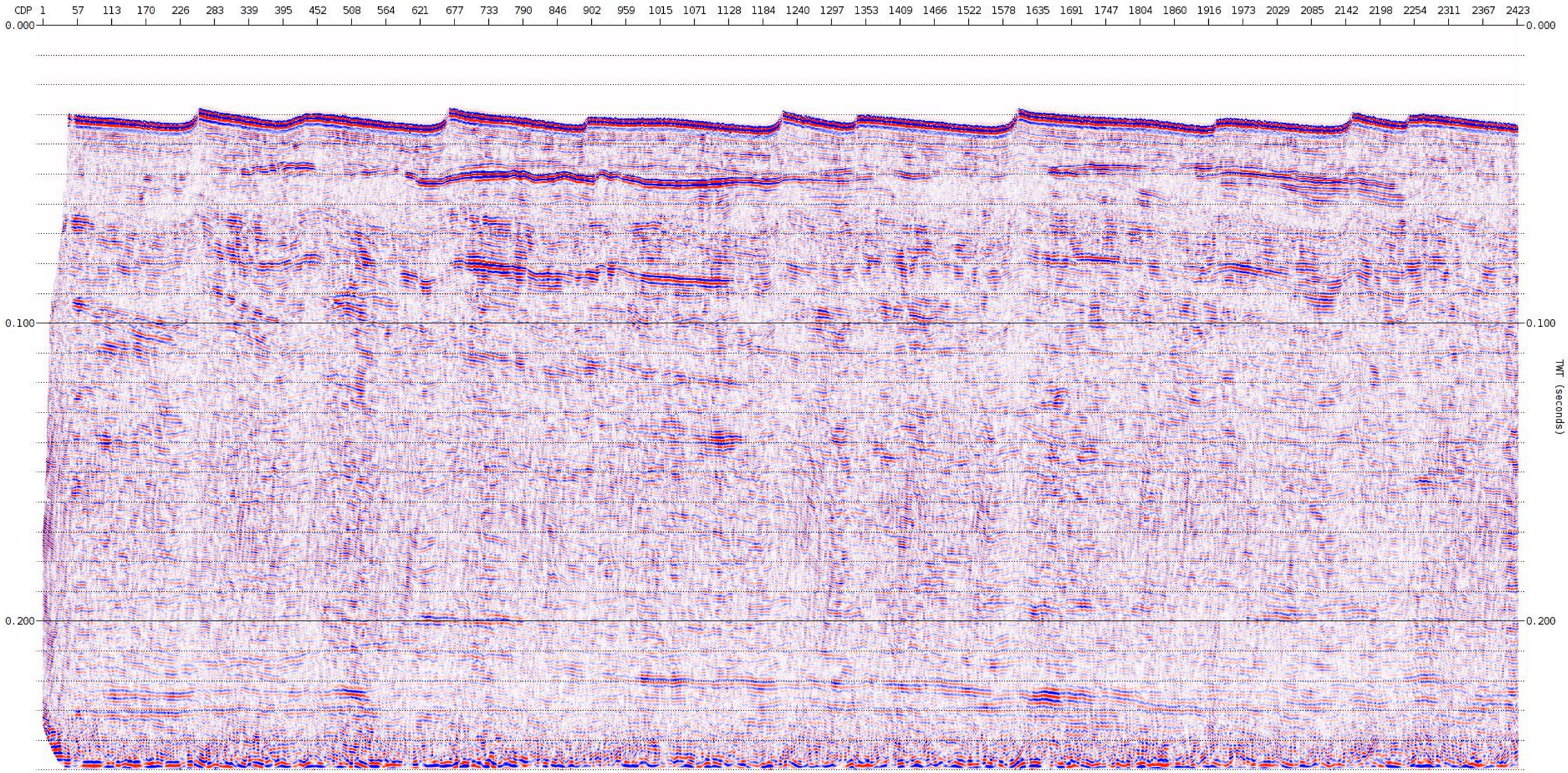


Figure A.9: Migrated stack TEST-540G

GSO 540-tip Sparker at 2400 J, 3.125 m shot interval, streamer depth 0.4 m, heading 206 degrees

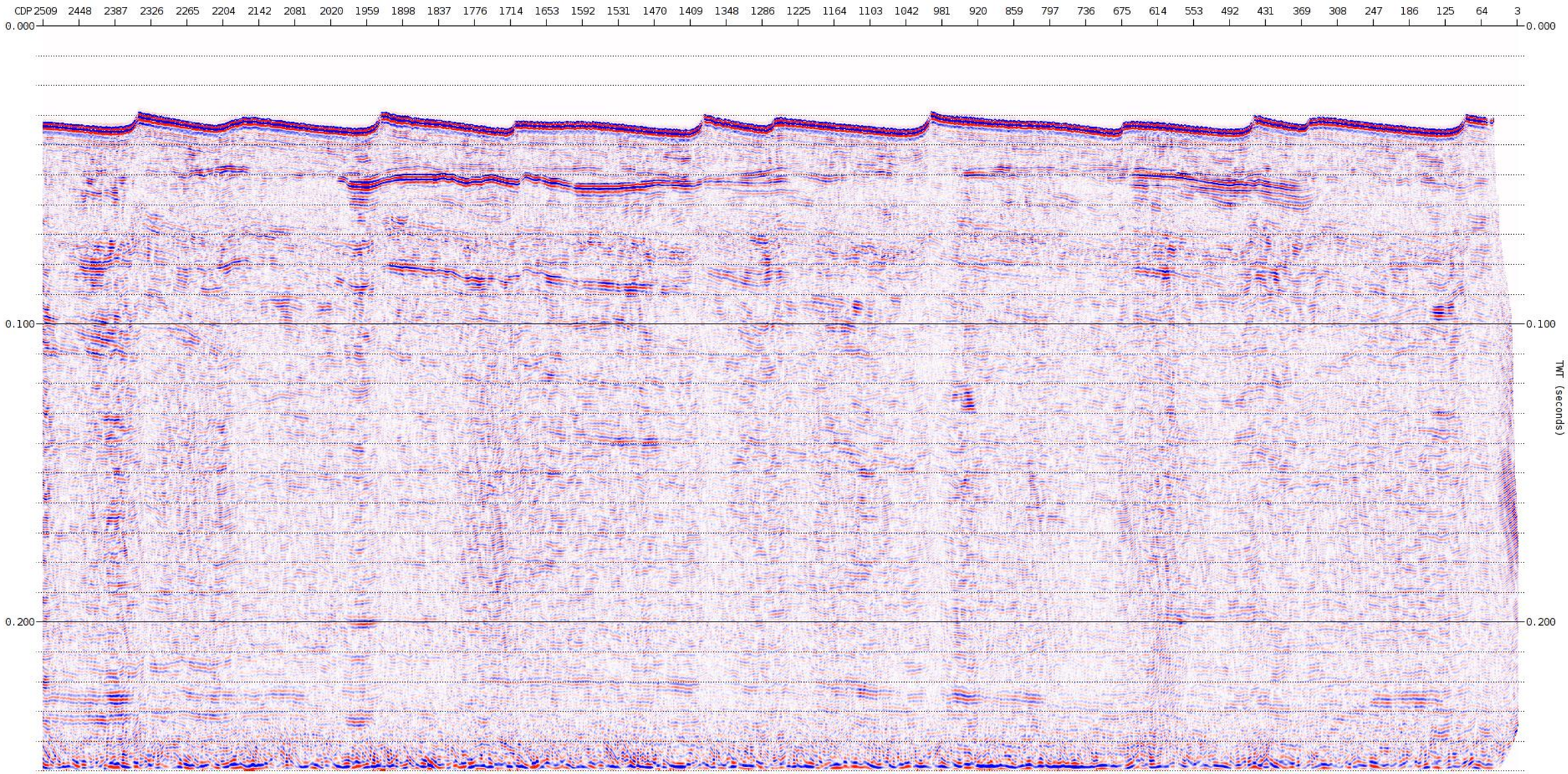


Figure A.10: Migrated stack TEST-540H

GSO 540-tip Sparker at 2400 J, 3.125 m shot interval, streamer depth 0.4 m, heading 026 degrees.

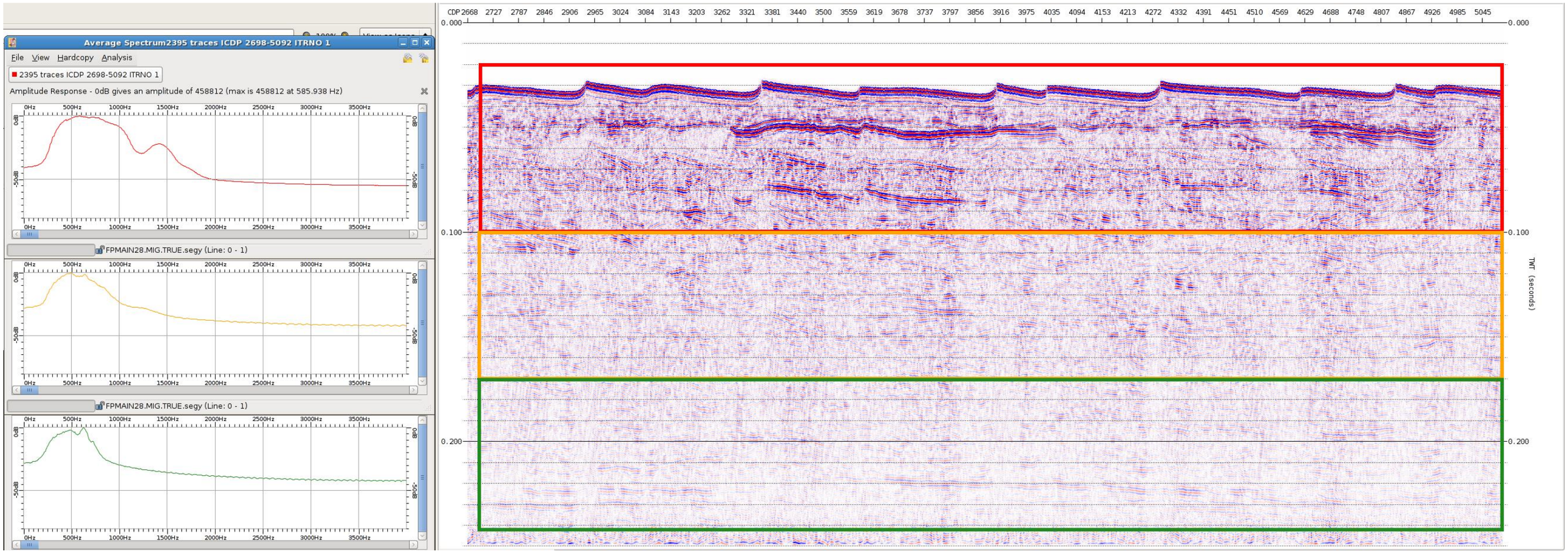


Figure A.11: Migrated stack TEST-360A with frequency spectra

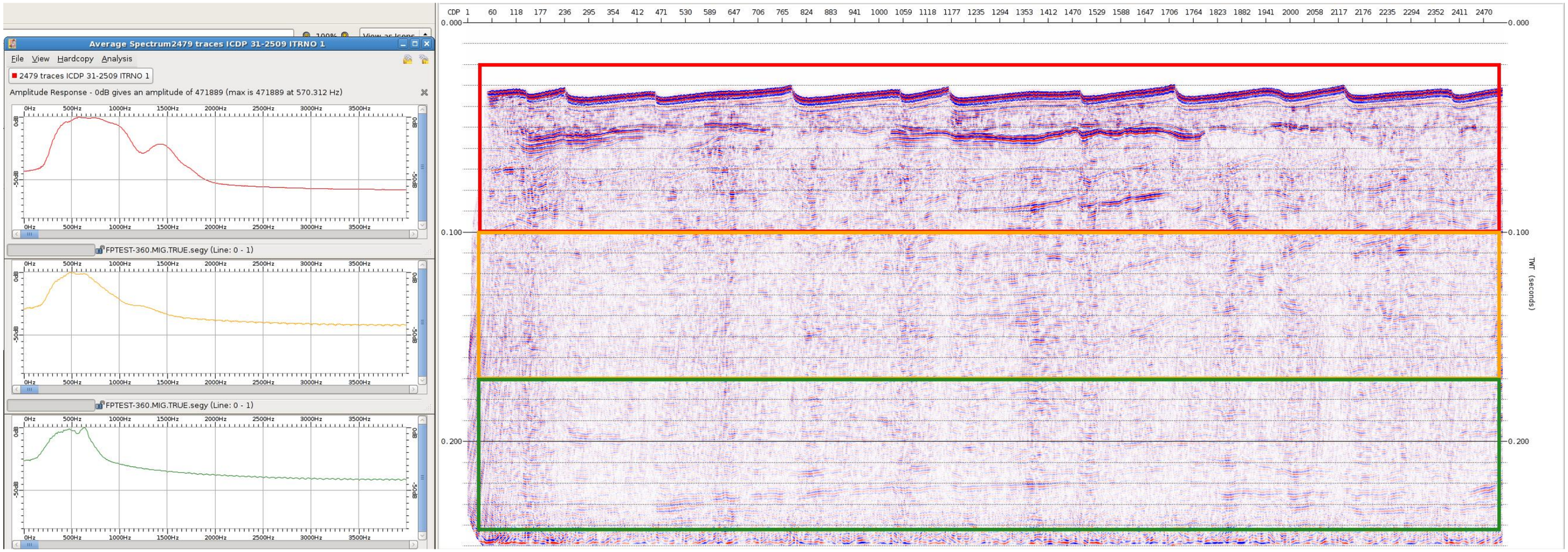


Figure A.12: Migrated stack TEST-360B with frequency spectra

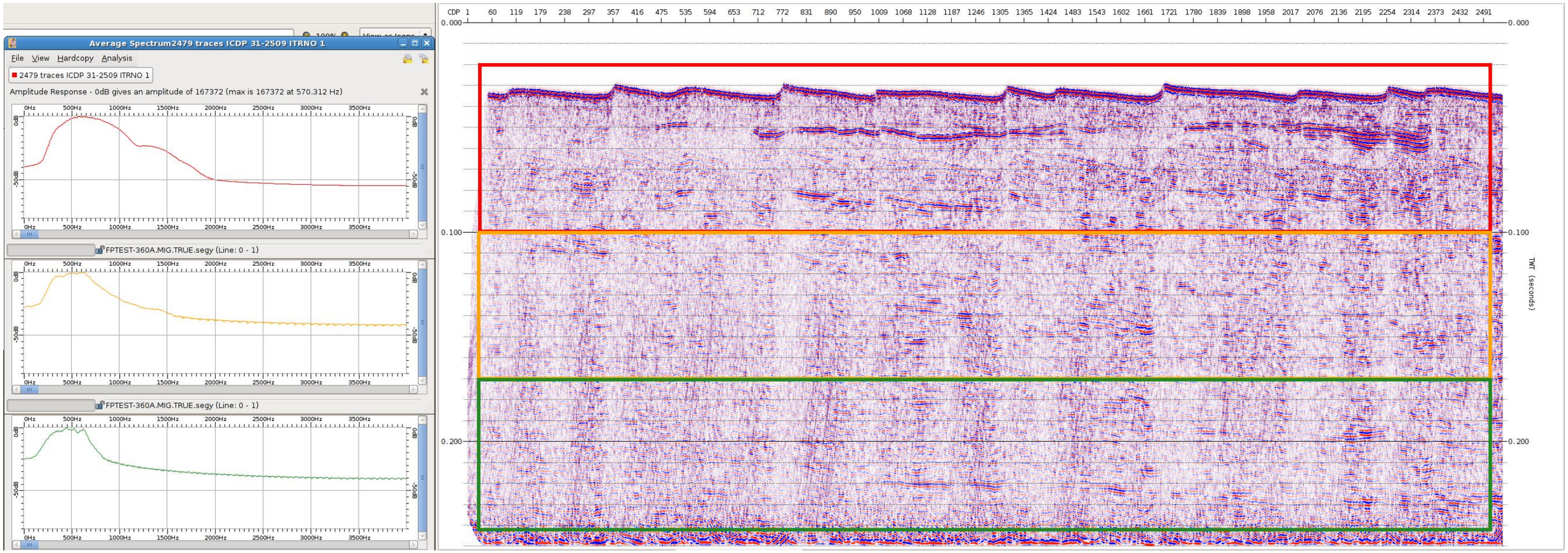


Figure A.13: Migrated stack TEST-360C with frequency spectra

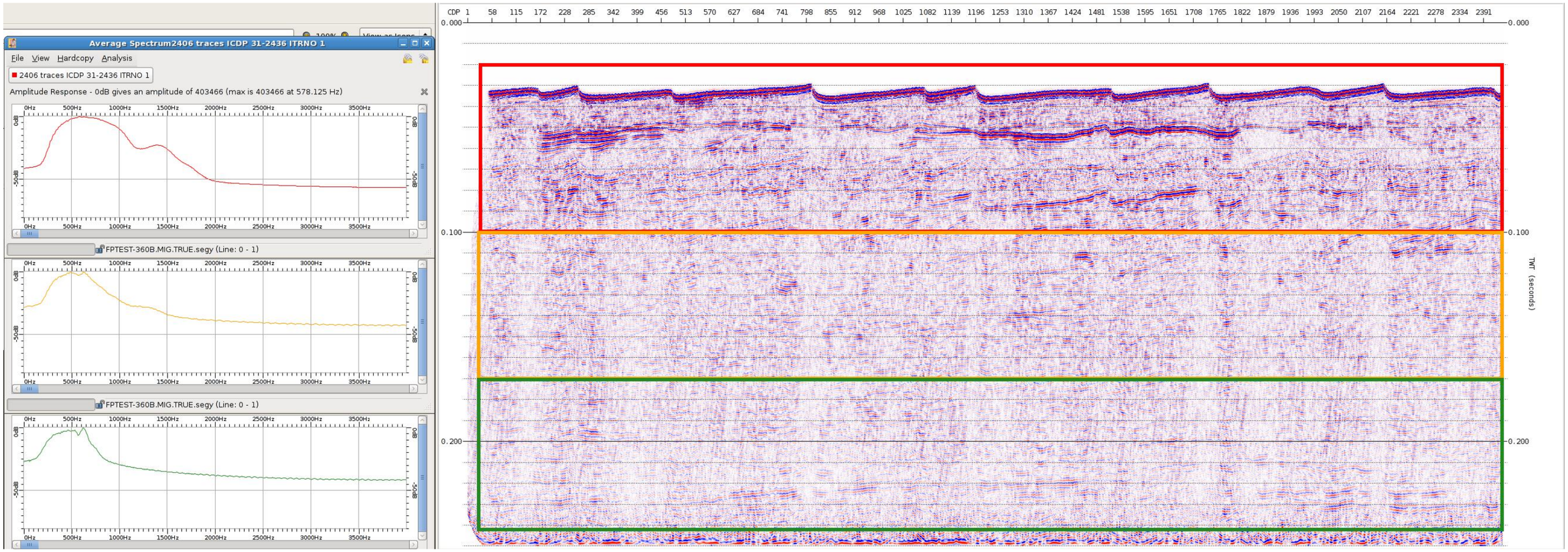


Figure A.14: Migrated stack TEST-360D with frequency spectra

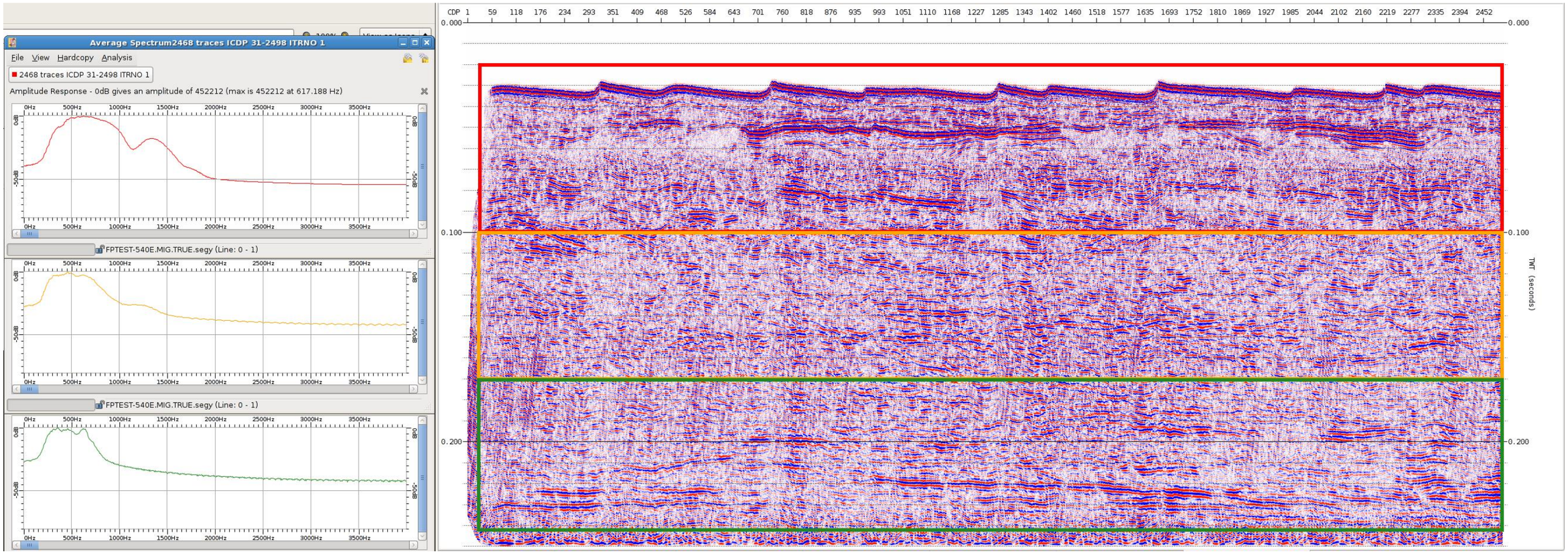


Figure A.15: Migrated stack TEST-540E with frequency spectra

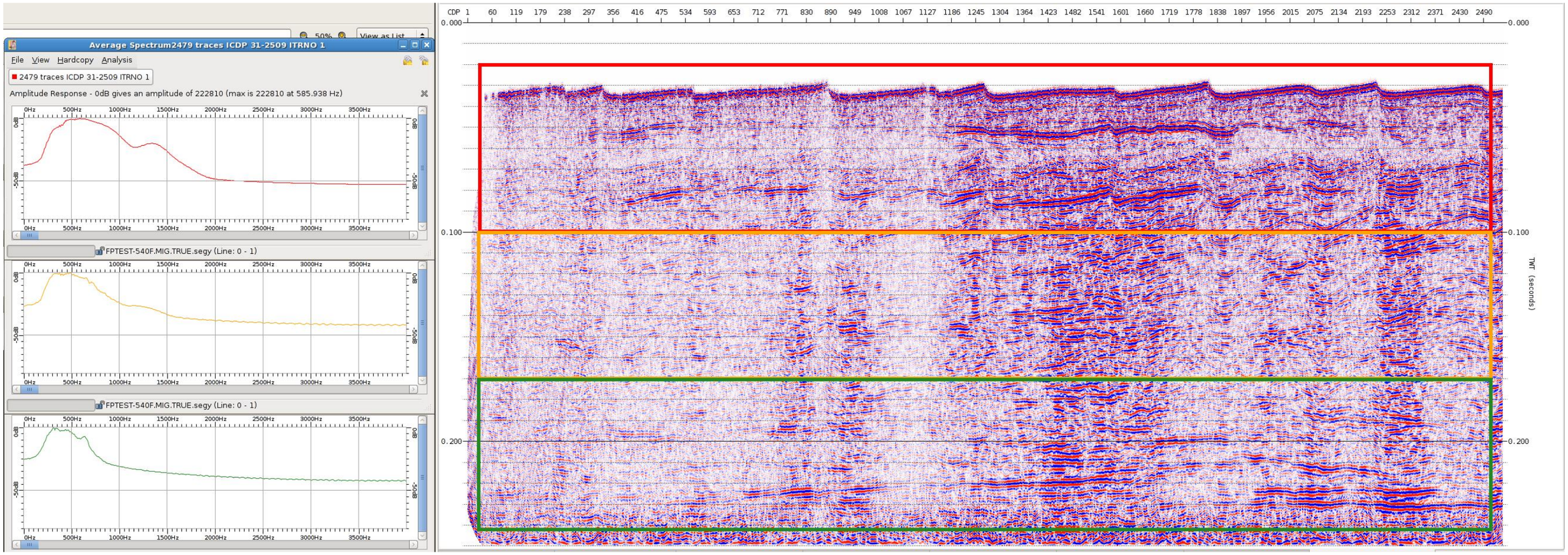


Figure A.16: Migrated stack TEST-540F with frequency spectra

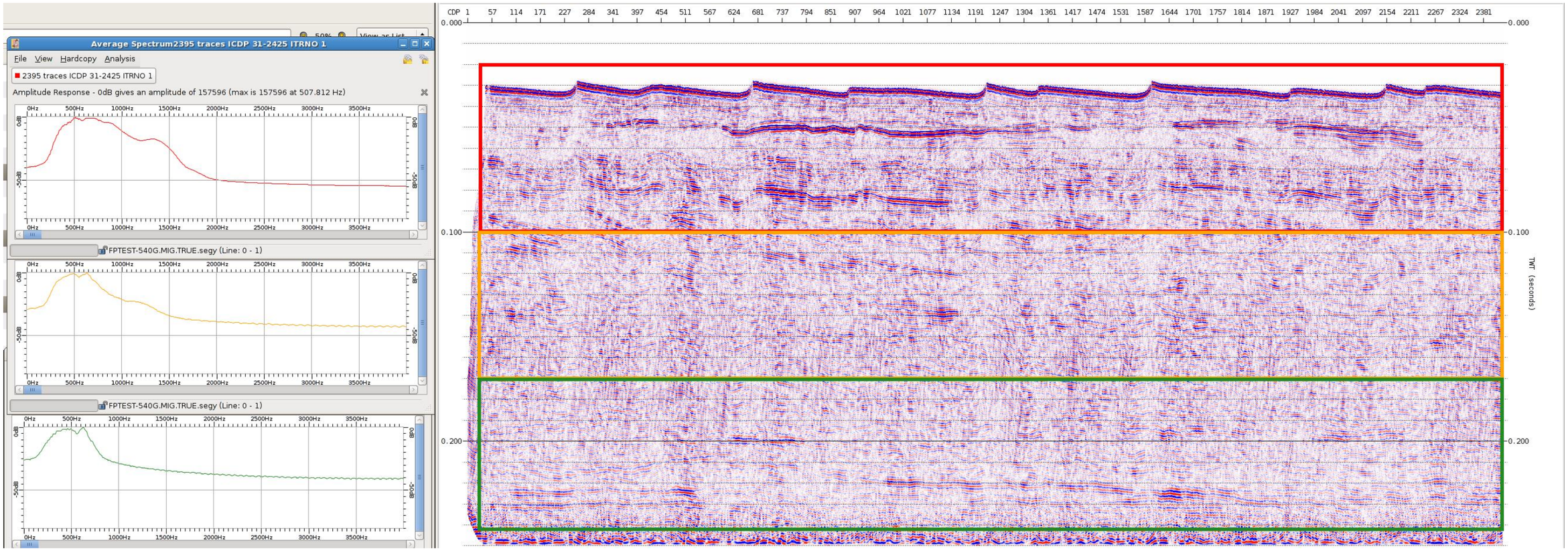


Figure A.17: Migrated stack TEST-540G with frequency spectra

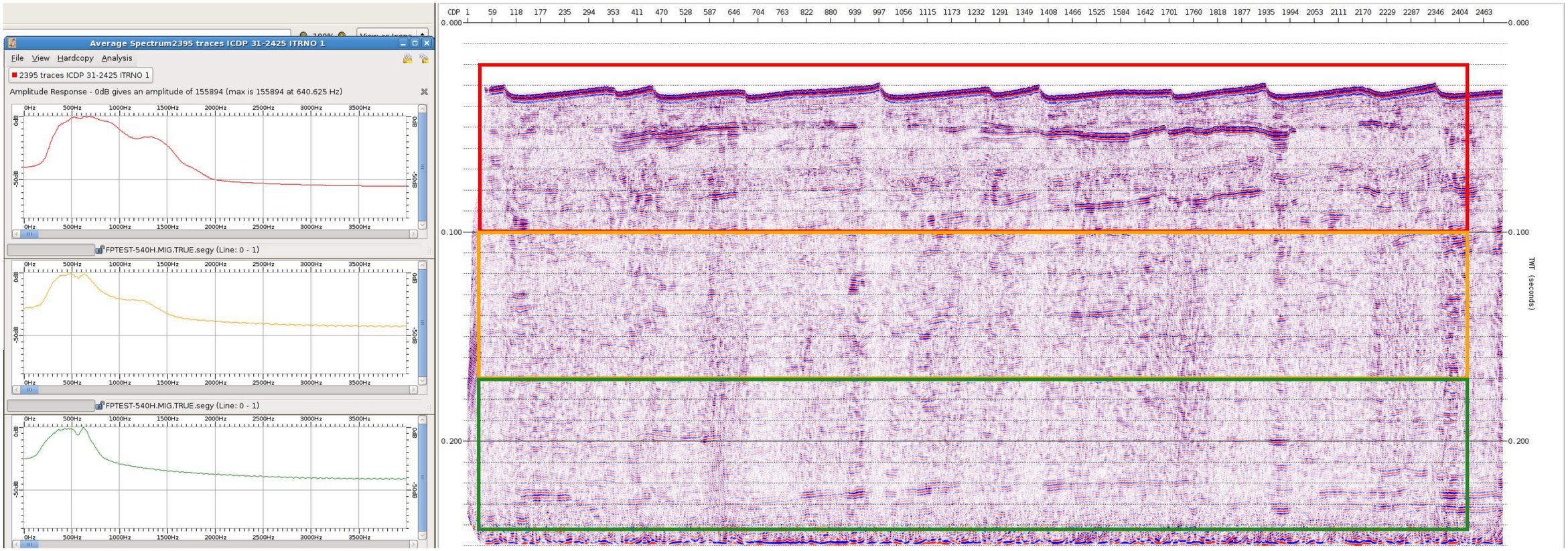


Figure A.18: Migrated stack TEST-540H with frequency spectra

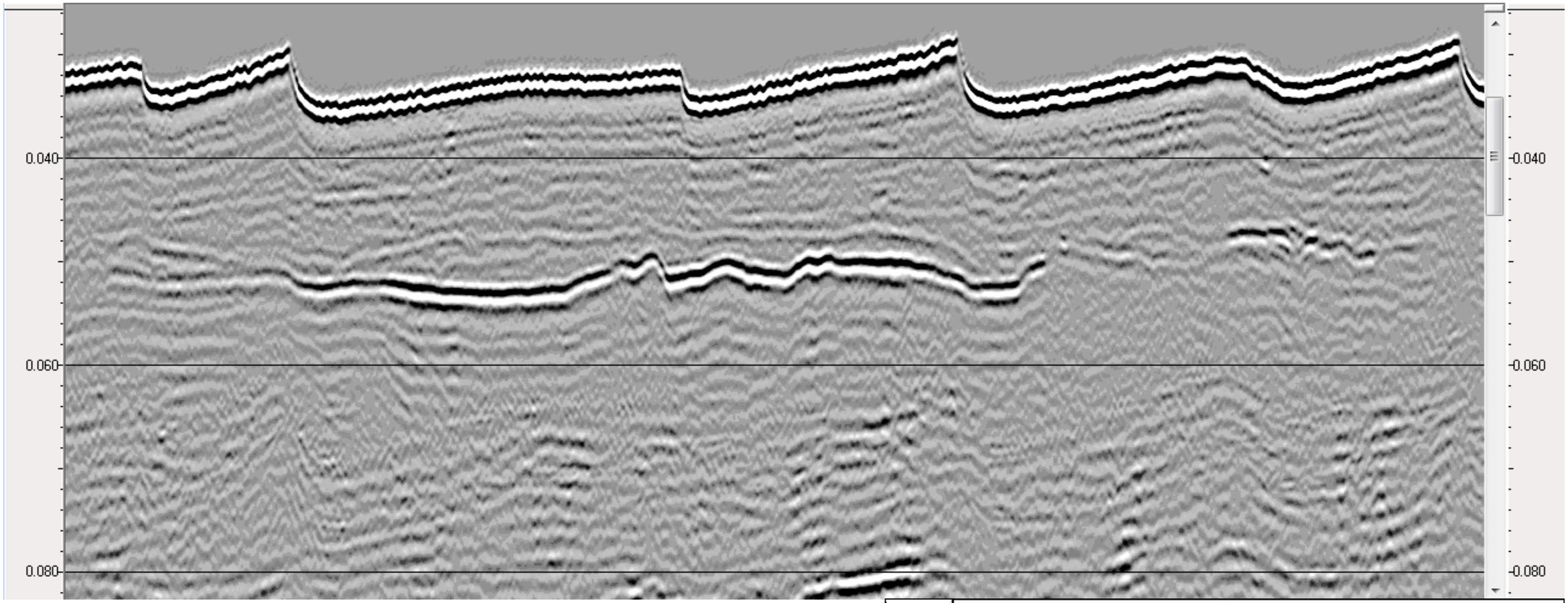
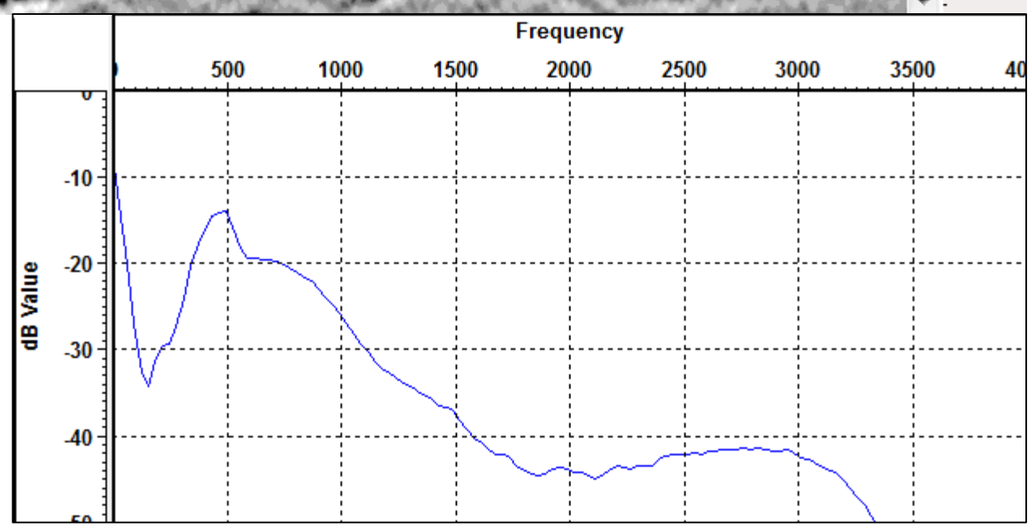
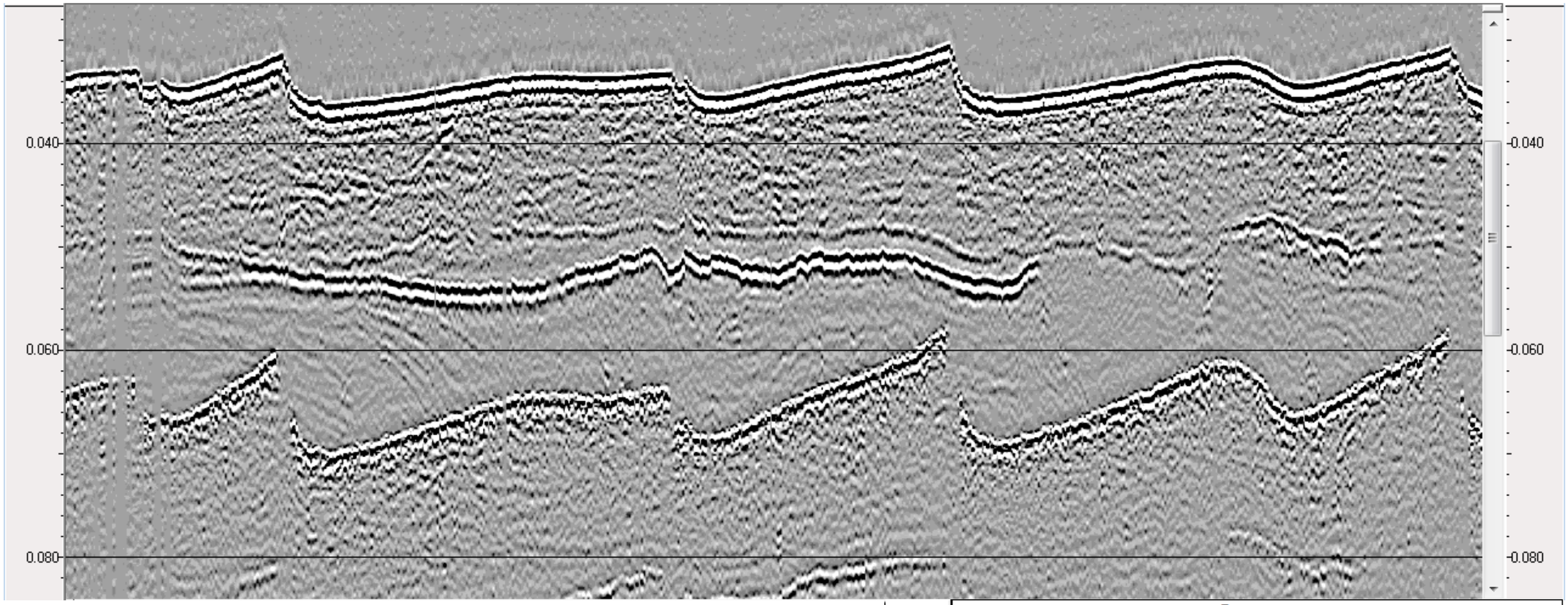


Figure A.19: Shallow stratigraphy data derived from the GSO 540-tip Sparker multi-channel test line TEST 540F

Length of section approx. 1 km, vertical scale in ms.





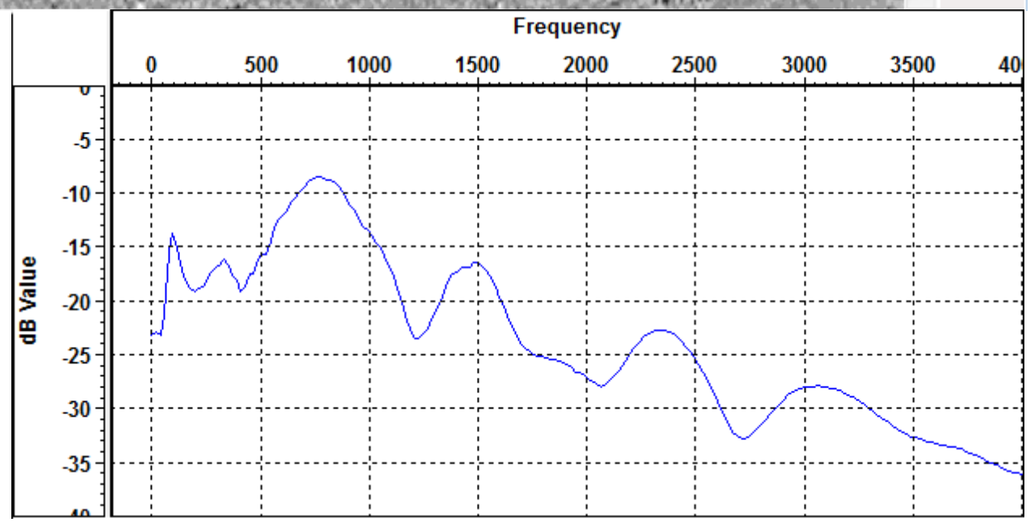


Figure A.20: Shallow stratigraphy data from the GSO 100-tip Sparker recorded with single channel streamer

Length of section approx. 1 km, vertical scale in ms.

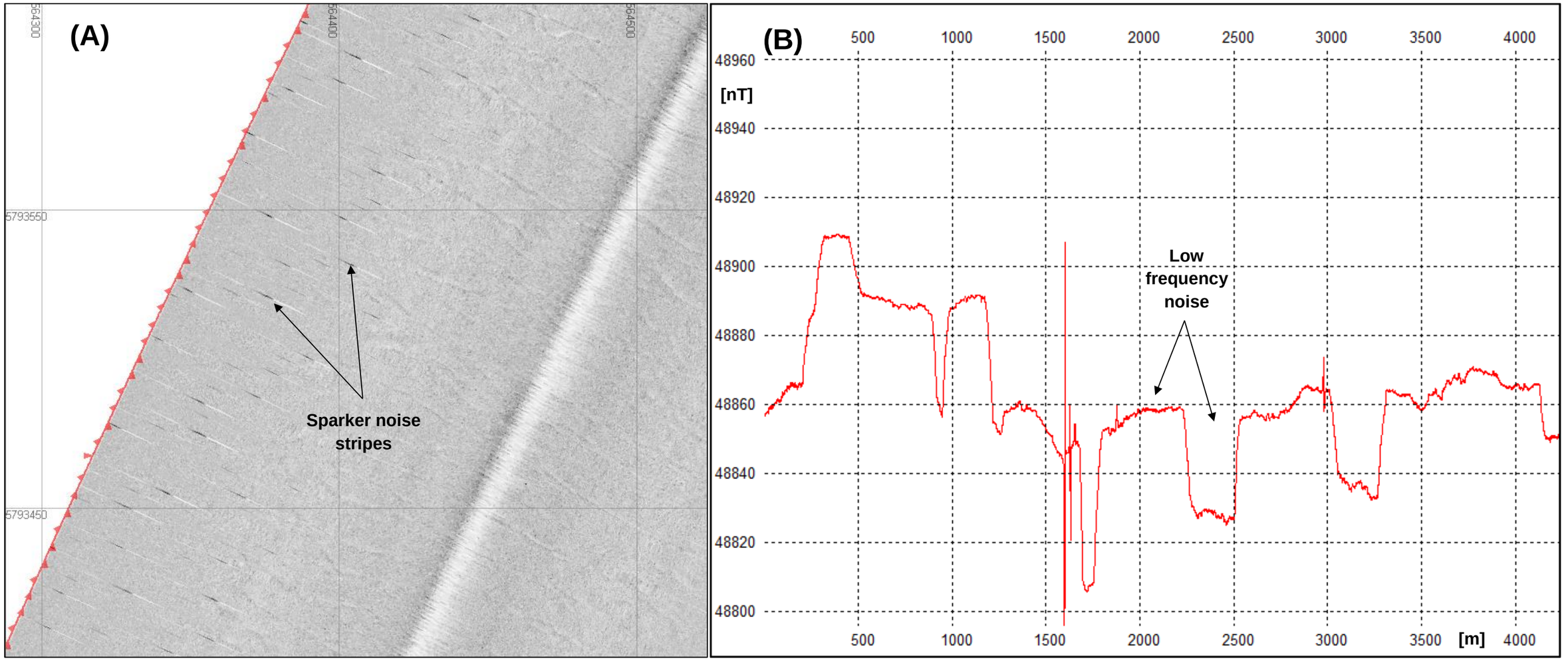


Figure A.21: Noise induced by the GSO 100-tip Sparker towed in close proximity to (A) high frequency SSS data and (B) magnetometer data (total field intensity over a 4 km long section)

A.17 SOUND VELOCITY PROFILER CALIBRATIONS MV FUGRO PIONEER

(8 pages, not numbered)

SAIV A/S SD204

Pressure Sensor Test Certificate

Sensor Make:	SAIV A/S	Sensor Model:	SD204
Sensor Range (Bar):	200	Sensor Serial #:	1165
DWT Model:	GE Sensing P3124-1	DWT Serial #:	66987
Atm. Pressure (Bar):	1.026	Temperature (°C):	24.7

Applied Pressure (Bar)	Pressure % of Full Scale	Readback Pressure (Bar)	Error % of Full Scale	Test Limit % of Full Scale	Result
1.026	1	1.028	-0.001	0.05	PASS
41.050	21	41.042	0.004	0.05	PASS
81.075	41	81.093	-0.009	0.05	PASS
121.100	61	121.046	0.027	0.05	PASS
161.124	81	161.167	-0.022	0.05	PASS
201.149	101	201.216	-0.034	0.05	PASS
161.124	81	161.172	-0.024	0.05	PASS
121.100	61	121.141	-0.021	0.05	PASS
81.075	41	81.088	-0.006	0.05	PASS
41.050	21	41.036	0.007	0.05	PASS
1.026	1	1.026	0.000	0.05	PASS

Tested by: MPA van Leeuwen Test Date: 3 July 2015

Signature:

Tested at location:

Fugro Survey B.V.
Veurse Achterweg 12
2264 SG Leidschendam
The Netherlands

© Fugro Survey B.V.

This certifies that the instrument detailed below has been verified against SAIV A/S calibrated equipment standards, who used equipment with calibrations traceable to UKAS or National Standards.

SAIV A/S SD204

Verification Certificate

Sensor Model:	SD204	Sensor Serial #:	1166
Reference Model:	SD208	Reference Serial #:	1221

Speed of Sound

Reference [m/s]	Instrument [m/s]	Error [m/s]	Acceptable Error [m/s]	Result
0.000	0.000	0.000	±0.030	Pass

Temperature

Reference [°C] IPTS 90	Instrument [°C] IPTS 90	Error [°C] IPTS 90	Acceptable Error [°C] IPTS 90	Result
20.823	20.826	-0.003	±0.01	Pass
15.210	15.208	0.002	±0.01	Pass
10.114	10.116	-0.002	±0.01	Pass

Conductivity

Reference [mS/cm]	Instrument [mS/cm]	Error [mS/cm]	Acceptable Error [mS/cm]	Result
16.068	16.060	-0.008	±0.015	Pass

Pressure

Reference [dBar]	Instrument [dBar]	Error %FS	Acceptable Error %FS	Result
10.15	10.05	0.005	±0.05	Pass

Tested by: MPA van Leeuwen

Test Date: 8 March 2016

Signature:

Tested at location:

Fugro Survey B.V.
Veurse Achterweg 12
2264 SG Leidschendam
The Netherlands

VALEPORT

Calibration Certificate Number: **38063**

This document certifies that the instrument detailed below has been calibrated according to Valeport Limited's Standard Procedures, using equipment with calibrations traceable to UKAS or National Standards.

Instrument Type:	**miniSVS - SV only**
Instrument Serial Number:	**44878**
Calibrated By:	**L.Bicknell**
Date:	**27/05/2014**
Signed:	

Full details of the results from the calibration procedure applied to each fitted sensor are available in separate documents. This summary certificate should be kept with the instrument.

Valeport Limited, St. Peter's Quay, Totnes, Devon, TQ9 5EW. U.K.
Tel: +44 (0)1803 869292 Fax: +44 (0)1803 869293
E-mail: sales@valeport.co.uk Web: www.valeport.co.uk

Build and Calibration Record - 0652804C

© Valeport Limited

Instrument type	miniSVS - SV only
Serial number	44878
Path Length, mm	50
Baud rate set ex factory	19200

Calibration History:	Certificate	Date
	38063	27/05/2014

System Components	Original Manufacture				Modification				Modification				Modification			
	Part	Iss	Serial Number	Range / Firmware	Part	Iss	Serial Number	Range / Firmware	Part	Iss	Serial Number	Range / Firmware	Part	Iss	Serial Number	Range / Firmware
Main Board	0650505	F	97790	0650713B5 0650714B												
SV Sensor			97805													
Bootloader Fitted	YES															
Name	J.Horsell				Name				Name				Name			
Date	27/05/2014				Date				Date				Date			
Signed					Signed				Signed				Signed			

Calibrated to Valeport's procedures using test equipment with calibrations traceable to UKAS or national standards

© Valeport Ltd

Instrument Serial Number	44878
Transducer Type, mm	50
Transducer Ser No	97805
PCB Part No	0650505F
PCB Ser No	97790
Processor Firmware Version	0650713B5
FPGA Firmware Version	0650714B
Certificate Number	38063

Calibration Equipment used		
Instrument	Type	Serial No
Temp Bridge	Micro K 250	33492/1
PRT	909L	126

Stage 1: First order fit

Temp °C90	SoS from Bilaniuk & Wong m/s	Measured ToF nsec*100	Coefficients	Calc SoS from coefficients m/s	Error (Calc - True) m/s	Acceptable Error m/s	Pass/Fail
1.8939	1411.723	7417592	3.865150E+05	1411.723	0.000	±0.001	Pass
15.8406	1468.855	7144116	1.007462E+07	1468.855	0.000	±0.001	Pass

Stage 2: Enter calibration string

#O22;10074617;386515

Stage 3: Check point

Temp °C90	Actual SoS m/s	Measured SoS m/s	Error SoS Reading-Actual m/s	Acceptable Error m/s	Pass/Fail
15.8403	1468.854	1468.852	-0.002	±0.005	Pass

Name:	L.Bicknell
Date:	27/05/2014
Signature:	

Instrument Test Certificate

VALEPORT

Valeport Contract Number:	14449

System Description:	miniSVS 50mm

Main Serial Number:	44878

Item	Serial Number	Assembly Completed		Service Completed		Calibration Completed		Functionality Test Completed		Pressure Test Completed 100 Bar		Immersion Test Completed		Post Immersion Functionality Test Completed	
miniSVS	44878	Inits: JL	Date: 27/05/14	Inits: /.	Date: /.	Inits: JS	Date: 27/5/14 Certificate number 38063	Inits: JL	Date: 29/05/14	Inits: JL	Date: 29/05/14	Inits: /.	Date: /.	Inits: JL	Date: 29/05/14
		Inits:	Date:	Inits:	Date:	Inits:	Date: Certificate number	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:
		Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:
		Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:
		Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:
		Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:
		Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:	Inits:	Date:

This document certifies that, where indicated above, the specified instrument and accessory items have undergone assembly, service, calibration and test procedures according to Valeport Limited's standard procedural documentation, and are declared ready for shipment.

Signed: ..... *Contract Controller*

Date: 29th May 2014

Thank you for purchasing a Valeport instrument. Every care has been taken to ensure that the instrument has been manufactured to the highest possible standards, and as such it is covered under Valeport's Warranty Policy as detailed below:

Standard Warranty Policy

The instrument detailed below is supplied with a Limited 3 Year Warranty against defects in materials and workmanship, valid from the date of despatch from Valeport's premises, with the following exclusions, exceptions and limitations:

1) Sensors supplied by other manufacturers (including pressure sensors) are only warranted according to the warranty period provided by the original manufacturer (typically 1 year).
2) Consumable items (including, but not limited to: batteries, o-rings, zinc anodes and electrolytes) are not covered by warranty.
3) Reasonable wear and tear (as judged by Valeport) is not covered by warranty.
4) Valeport Limited shall be under no liability for any consequential loss or damage of any kind whatsoever.
5) Correctly performed standard maintenance procedures as described in the operating manual will not invalidate the warranty. Failures caused by improper care and handling, or by unskilled or poor quality repair and maintenance attempts are not covered under warranty. Modifications to the original design will invalidate the warranty, insofar as it relates to the modified part.
6) All warranty repairs must be performed by Valeport personnel or their authorized representatives.
7) Valeport Limited is the sole judge of the cause of any failure, and the validity of any warranty claim. Please refer to the "Spirit of the Warranty" section below.

- Goods for warranty assessment should be adequately packed (preferably in the original packing) and returned freight pre-paid to Valeport, complete with a description of the nature of the problem. It is preferable that an RMA (Returns Number) is obtained from us in advance, to allow us to schedule the repair.
- All warranty claims are assessed on a case-by-case basis. You will be informed as soon as possible as to the validity of the warranty claim.
- In the event of a valid warranty claim, the goods will be repaired or replaced as appropriate at the sole discretion of Valeport Limited. The repaired / replacement instrument will be returned to you at our cost, using our choice of shipping method.
- In the event of an invalid warranty claim, you will be informed of any repairs that are necessary, and if acceptable, the instrument will be repaired as if it had been returned for service, with appropriate costs and return freight charges payable by you.
- Any repairs made under warranty shall have no effect on the duration of the warranty period, i.e. the warranty shall continue as if no fault had occurred.
- Valeport may, at our discretion, opt to despatch a replacement part for fitting in the field, if it is deemed to be the most appropriate response. In such circumstances, the user will be required to return the faulty part to Valeport (at the user's cost) for assessment and confirmation that the failure is a valid warranty claim. Failure to return the faulty part, or if the fault is subsequently judged to fall outside the terms of the warranty, shall result in the user being invoiced for the replacement part and freight costs.

Spirit of the Warranty

This warranty is offered on the basis that Valeport fully expects the instrument to perform satisfactorily for many years. We have built a reputation on reliability, longevity and quality, and therefore the aim of this warranty is your satisfaction and peace of mind. The "rules" as detailed above are the framework within which we operate our warranty policy, and the minimum that you can expect from us in resolving any warranty issue. However, each case is considered on its own merit, and we may decide that in certain circumstances, alternative arrangements or solutions to a warranty issue are appropriate. Equally, we hope that our customers accept this warranty in the spirit in which it is given, and to respect that whilst our primary concern is always to try and ensure that any issues are resolved as quickly and as satisfactorily as possible, we do also have a responsibility to objectively assess the validity of any warranty claim, and to consider the interests of Valeport Limited in any actions taken.

M. Quartley

Matthew Quartley
Managing Director

Instrument Type miniSVS 50mm

Serial Number(s) 44878

Date of Despatch 29th May 2014

Valeport Limited, St. Peter's Quay, Totnes, Devon, TQ9 5EW UK
Tel: +44 (0)1803 869292 Fax: +44 (0)1803 869293
E-mail: sales@valeport.co.uk Web: www.valeport.co.uk

VAT No: GB 165 8753 67 Registered in England No: 1950444

ACS REGISTRARS Quality Assurance ISO 9001 UKAS 229
ACS REGISTRARS Environmental Assurance ISO 14001 UKAS 229

SPEED OF SOUND VERIFICATION CERTIFICATE

This certifies that the instrument detailed below has been verified against Valeport Limited calibrated equipment standards, who used equipment with calibrations traceable to UKAS or National Standards.

Speed of Sound Check

Reference SoS [m/s]	Instrument SoS [m/s]	Error SoS Reading-Actual [m/s]	Acceptable Error [m/s]	
1470.588	1470.566	-0.022	±0.030	Pass

Verification Certificate Number:	V-012
Instrument Type:	SVS Gold
Instrument Serial Number:	49269
Verification Equipment:	SVS
Verification Equipment Serial Number:	26541
Verified By:	MLW
Date:	4/17/2015
Signed:	

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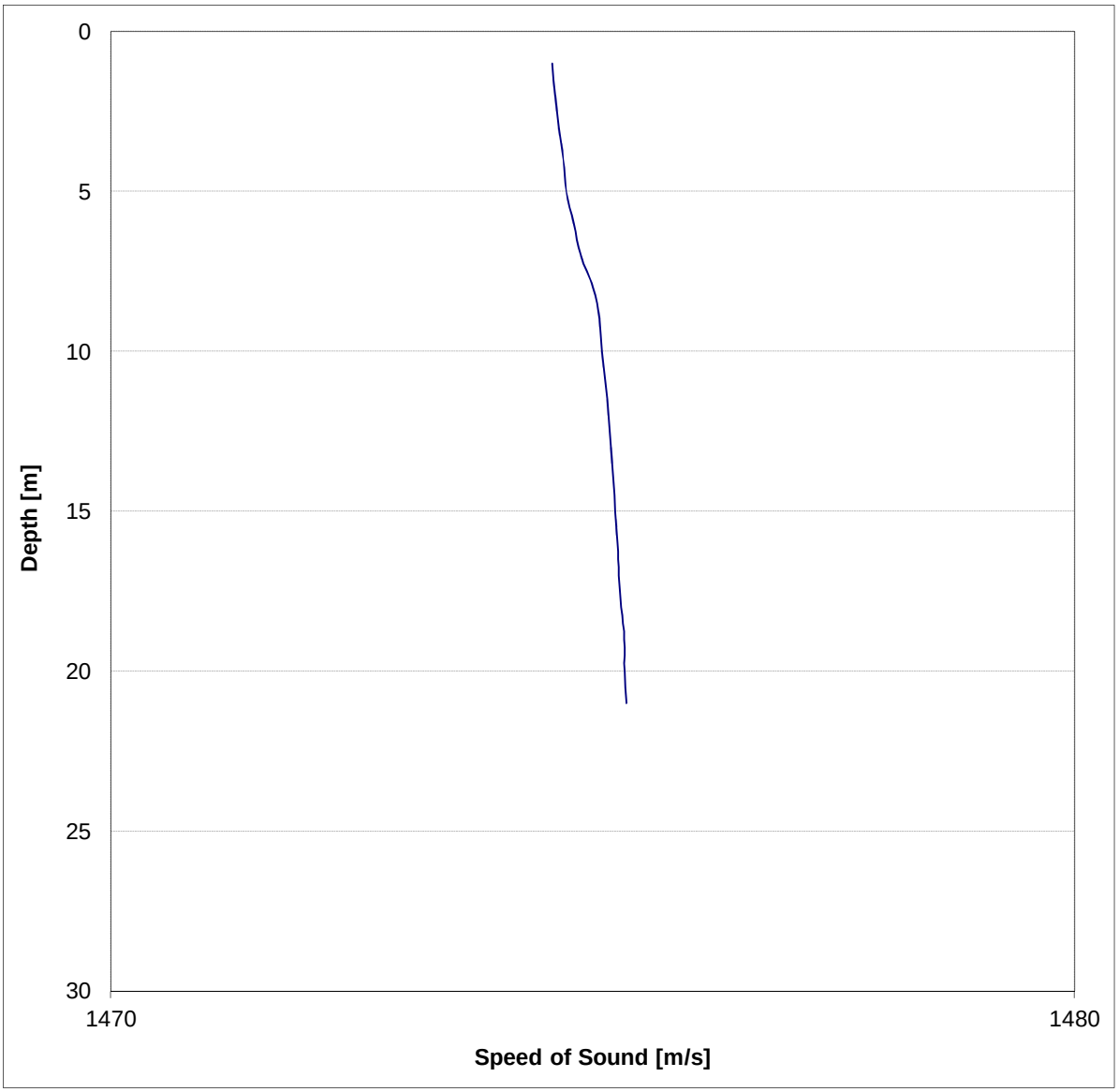
A.18 SOUND VELOCITY PROFILER COMPARISON MV FUGRO PIONEER

(2 pages, not numbered)

SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	20:14 09/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.41 m
Easting:	565080 m	Transducer speed of sound:	1474.66 m/s
Northing:	5785230 m	Bottom speed of sound:	1475.37 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.04 m/s
Sensor type and S/N:	SD1165	Average density:	1025.61 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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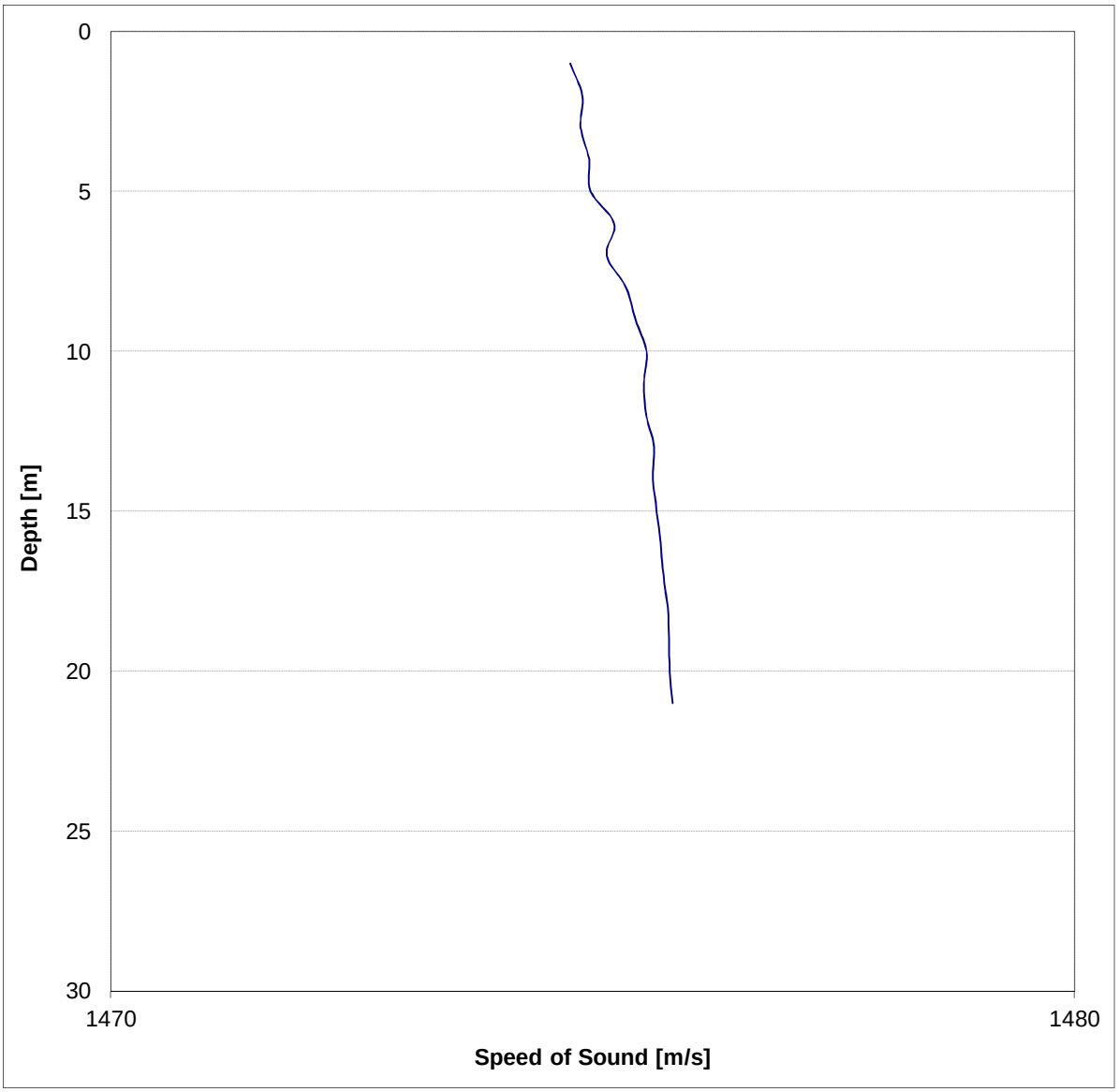
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	21:07 09/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.66 m
Easting:	565080 m	Transducer speed of sound:	1474.96 m/s
Northing:	5785230 m	Bottom speed of sound:	1475.83 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.42 m/s
Sensor type and S/N:	SD1166	Average density:	1025.73 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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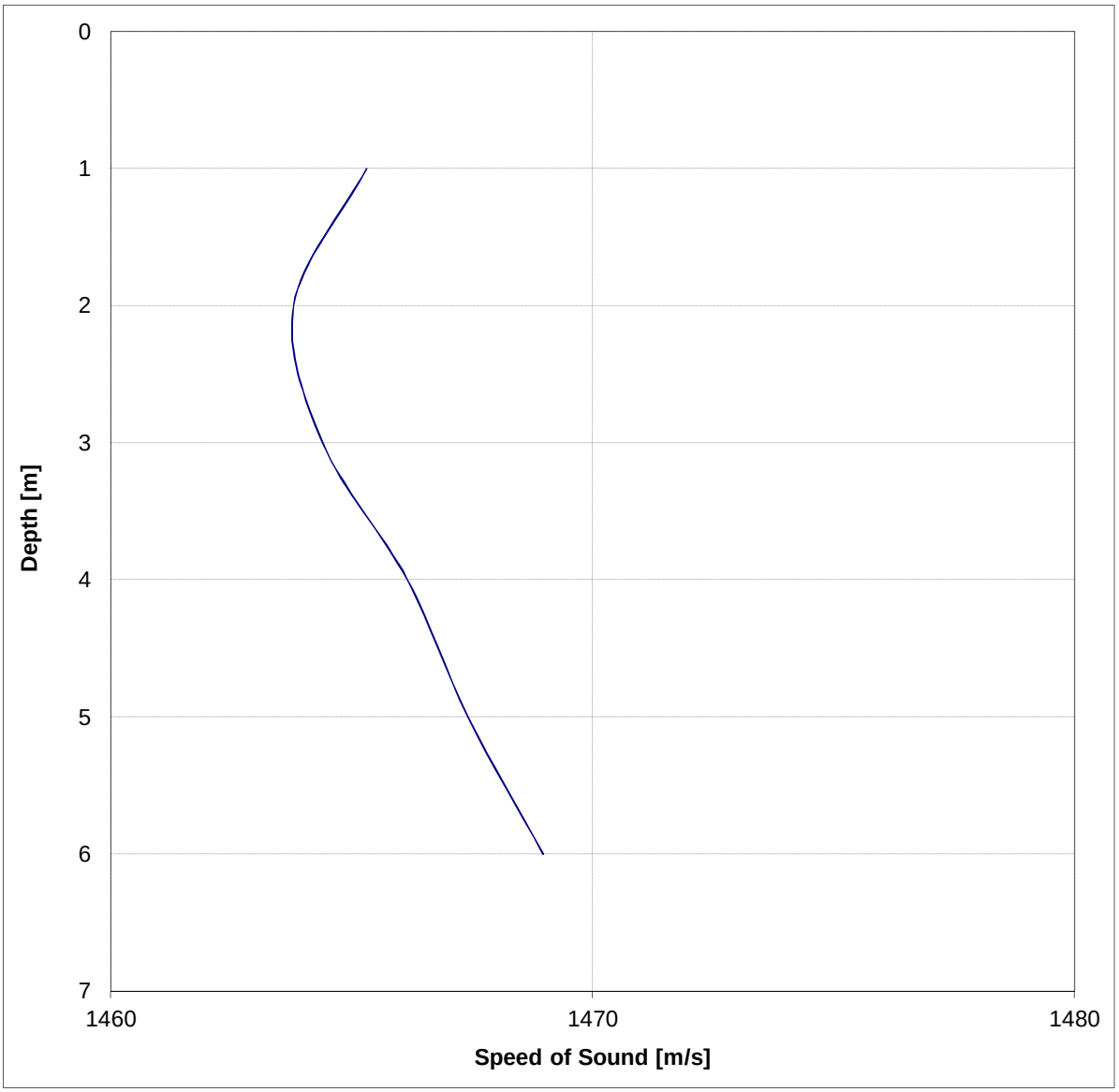
A.19 SOUND VELOCITY PROFILER MEASUREMENTS MV FUGRO PIONEER

(61 pages, not numbered)

SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	10:35 09/Mar/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	6.69 m
Easting:	586476 m	Transducer speed of sound:	1465.04 m/s
Northing:	57728111 m	Bottom speed of sound:	1469.79 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1466.00 m/s
Sensor type and S/N:	SD1165	Average density:	1019.94 kg/m^3



For Fugro Survey B.V.

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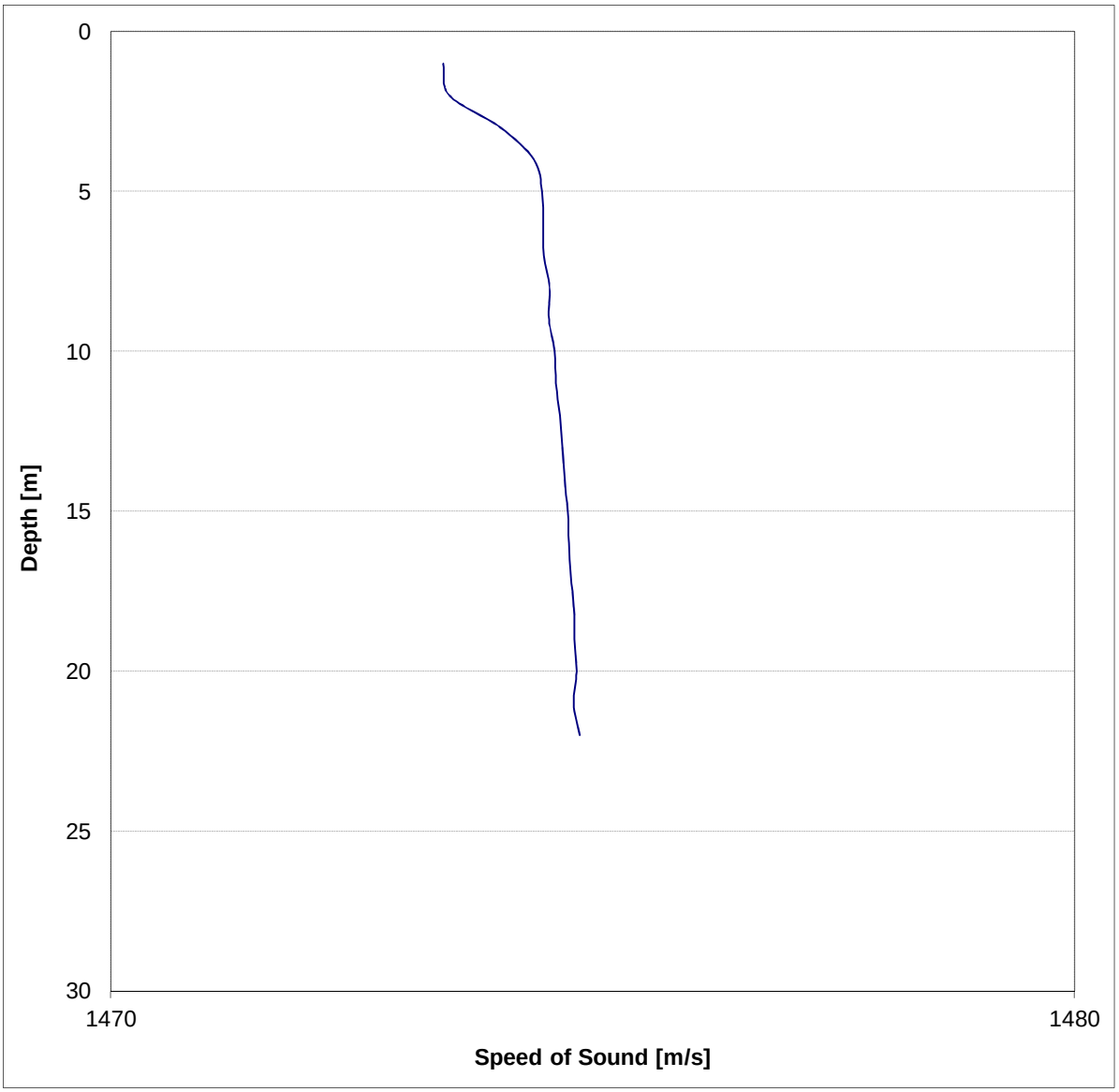
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	08:59 10/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	22.40 m
Easting:	566025 m	Transducer speed of sound:	1474.24 m/s
Northing:	5785822 m	Bottom speed of sound:	1474.87 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1474.53 m/s
Sensor type and S/N:	SD1165	Average density:	1025.46 kg/m^3



For Fugro Survey B.V.

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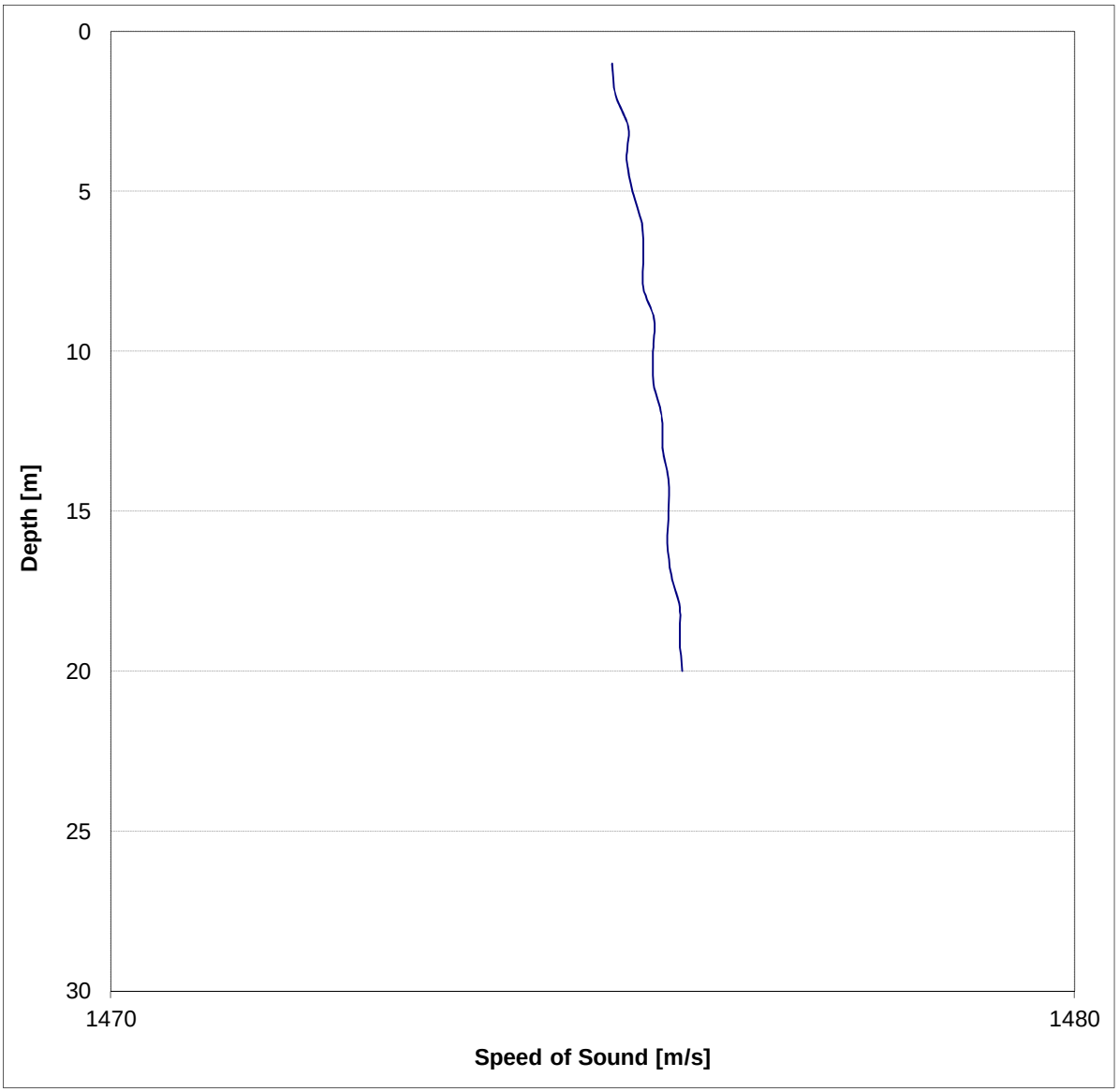
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	22:18 10/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	20.35 m
Easting:	569197 m	Transducer speed of sound:	1475.45 m/s
Northing:	5799930 m	Bottom speed of sound:	1475.92 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.62 m/s
Sensor type and S/N:	SD1165	Average density:	1026.15 kg/m^3



For Fugro Survey B.V.

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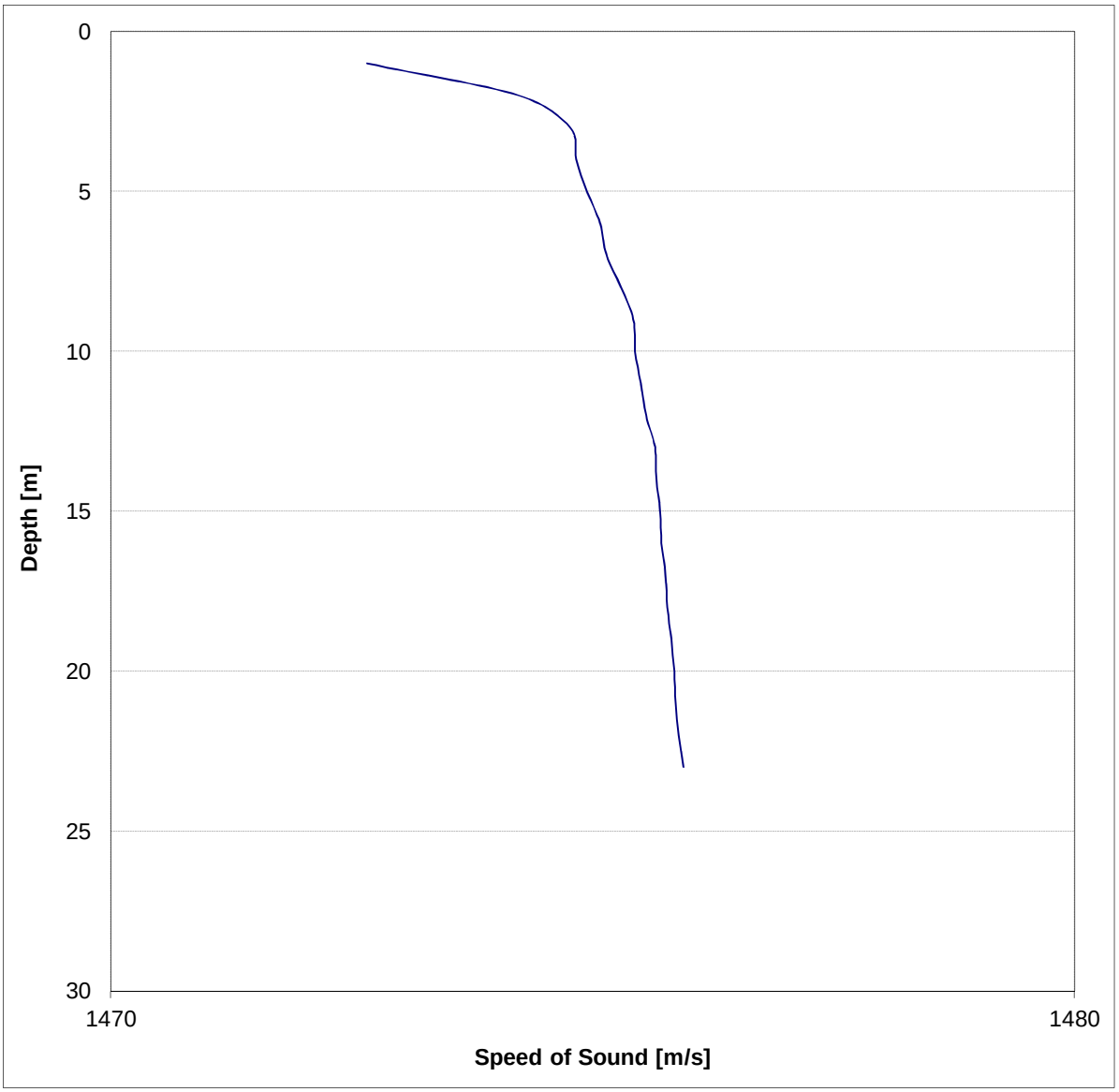
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	07:58 11/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	23.51 m
Easting:	563286 m	Transducer speed of sound:	1474.84 m/s
Northing:	5789618 m	Bottom speed of sound:	1475.93 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.32 m/s
Sensor type and S/N:	SD1165	Average density:	1025.85 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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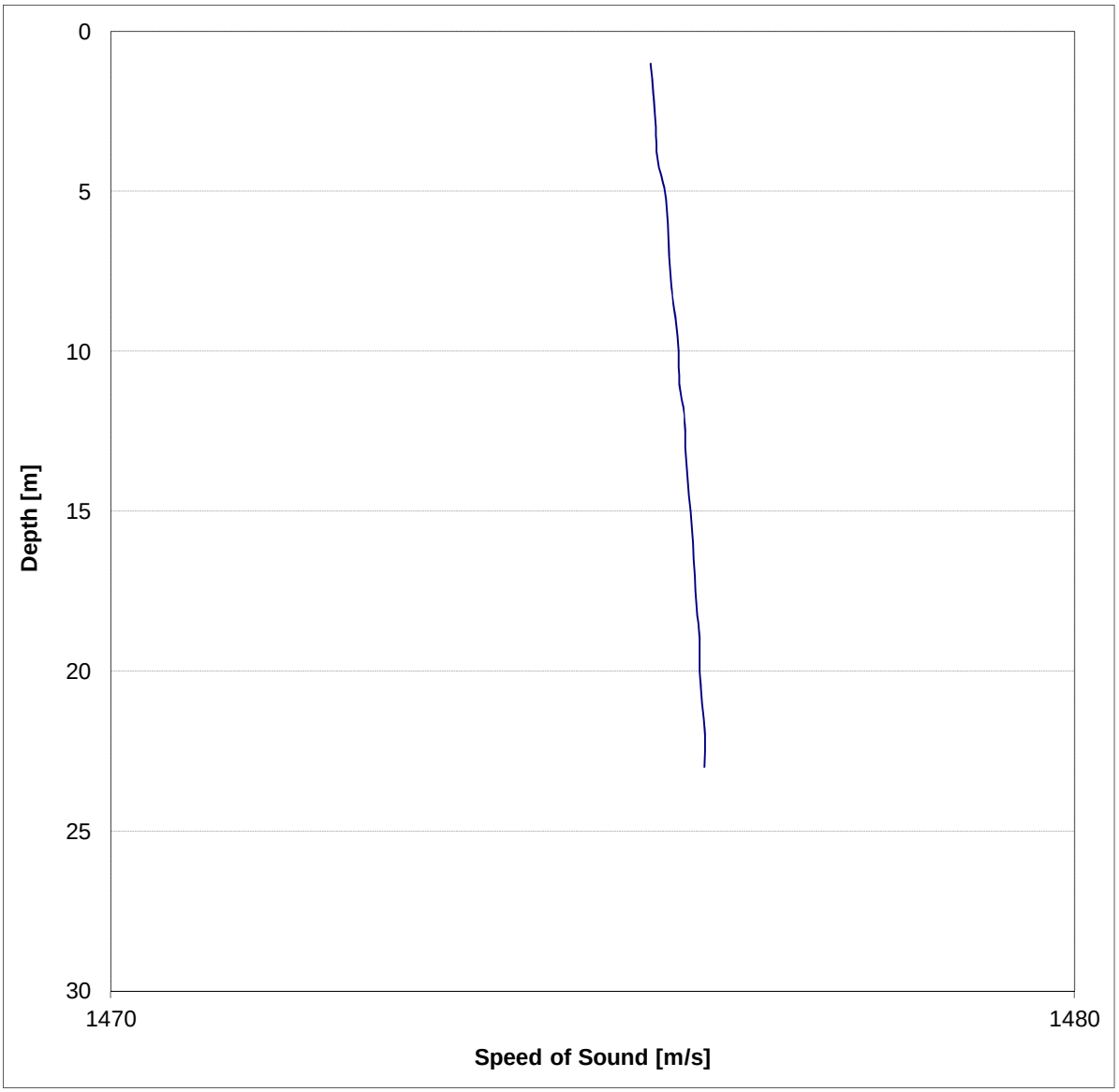
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	20:15 11/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	23.15 m
Easting:	566710 m	Transducer speed of sound:	1475.63 m/s
Northing:	5797248 m	Bottom speed of sound:	1476.17 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.92 m/s
Sensor type and S/N:	SD1165	Average density:	1026.14 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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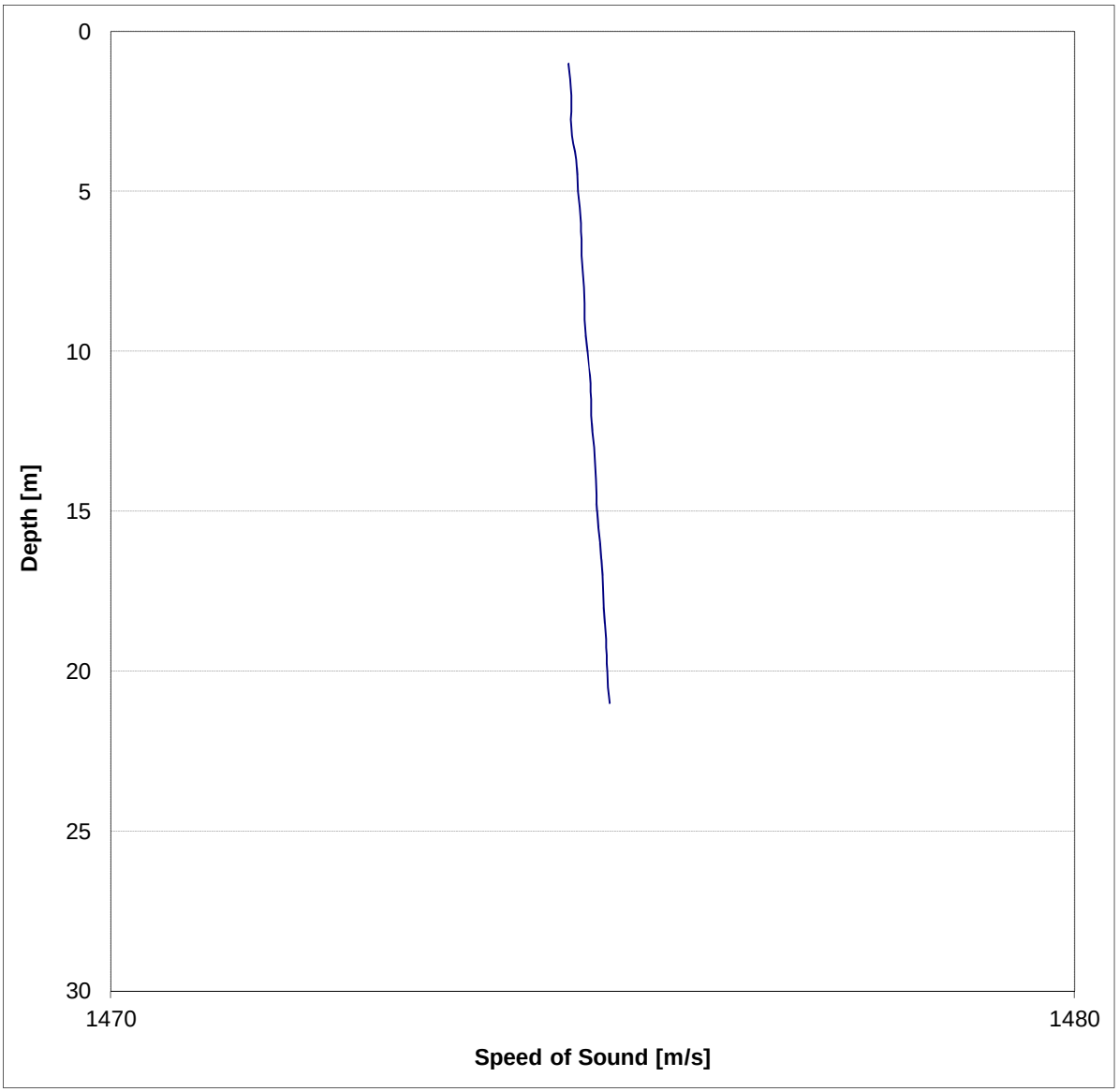
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	06:45 12/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.93 m
Easting:	570586 m	Transducer speed of sound:	1474.83 m/s
Northing:	5806043 m	Bottom speed of sound:	1475.22 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1474.97 m/s
Sensor type and S/N:	SD1165	Average density:	1025.93 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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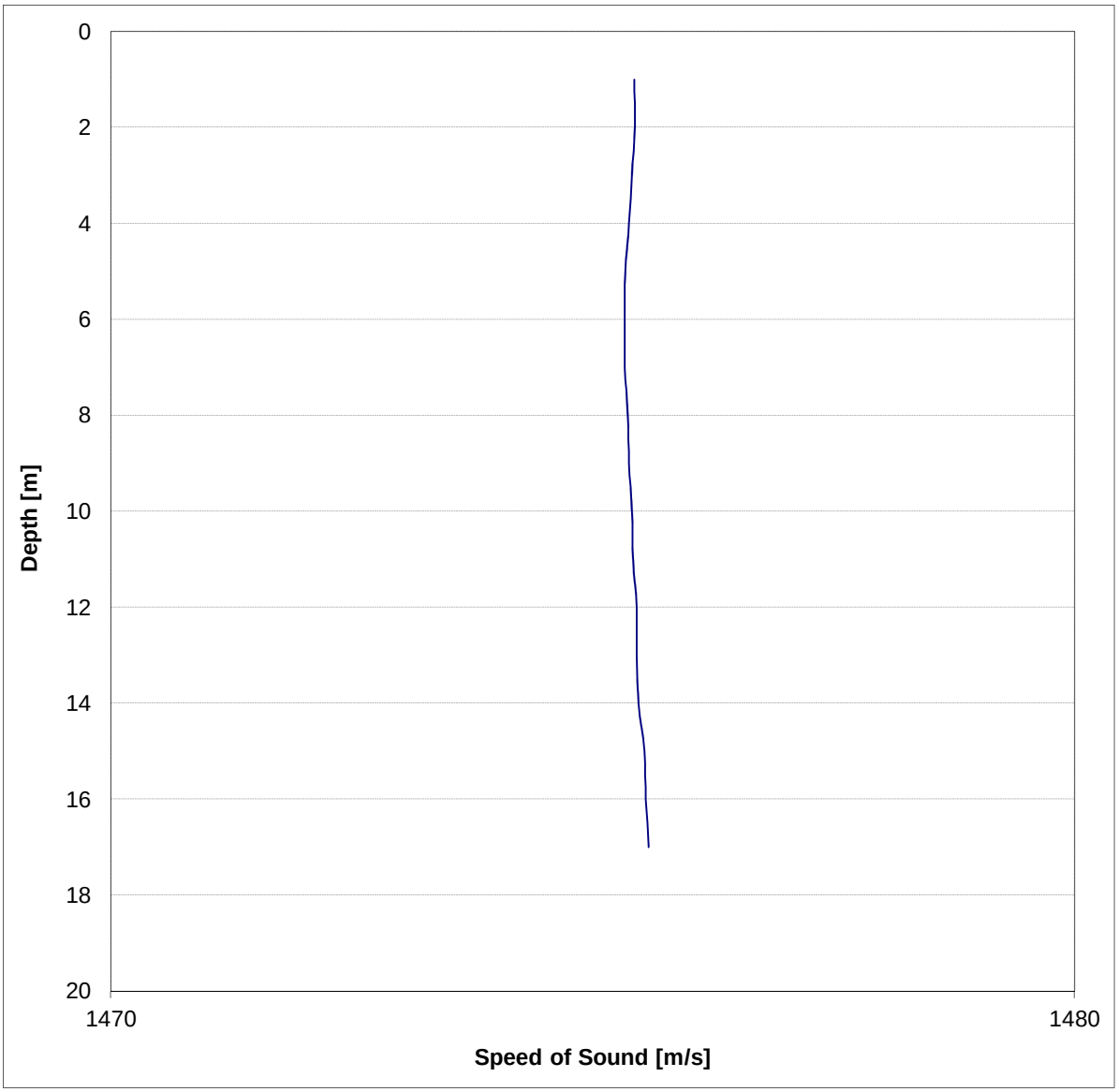
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	14:37 12/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	17.98 m
Easting:	561903 m	Transducer speed of sound:	1475.31 m/s
Northing:	5794172 m	Bottom speed of sound:	1475.59 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.43 m/s
Sensor type and S/N:	SD1165	Average density:	1025.95 kg/m^3



For Fugro Survey B.V. **For Client**

P. Miller

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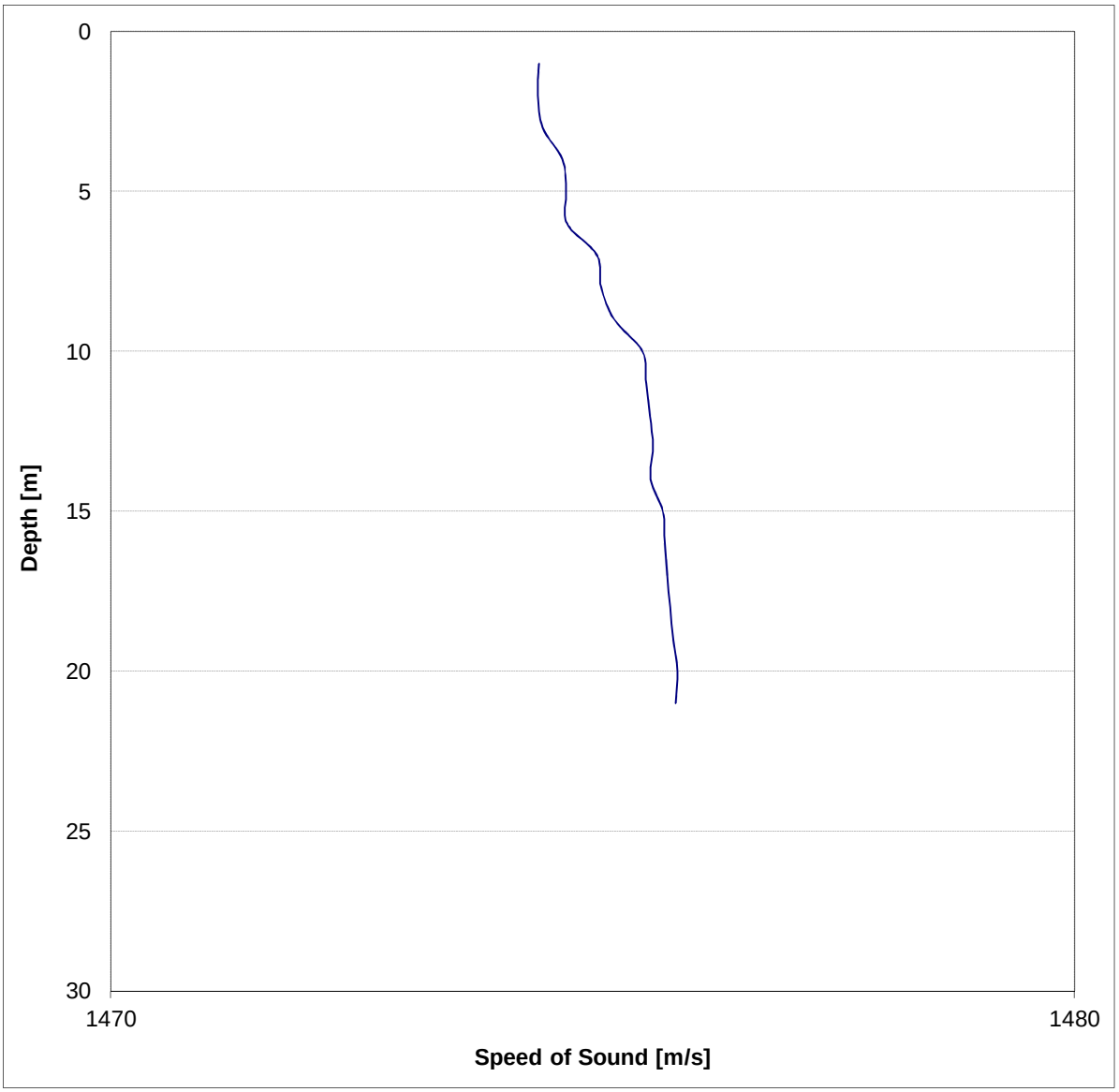
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	05:19 13/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.66 m
Easting:	567866 m	Transducer speed of sound:	1474.56 m/s
Northing:	5800972 m	Bottom speed of sound:	1475.90 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.30 m/s
Sensor type and S/N:	SD1165	Average density:	1025.99 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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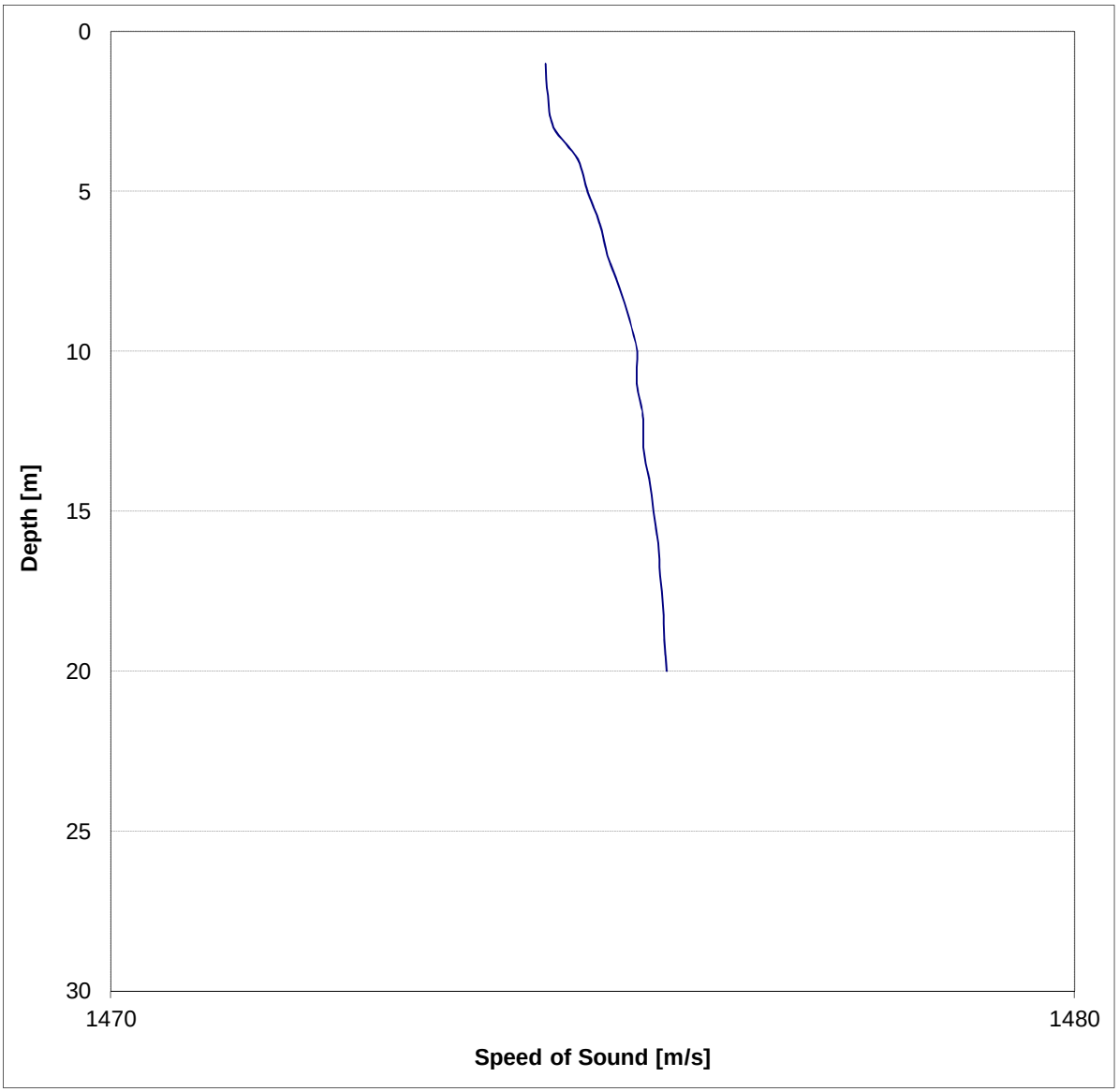
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	18:14 13/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	20.03 m
Easting:	564500 m	Transducer speed of sound:	1474.71 m/s
Northing:	5797760 m	Bottom speed of sound:	1475.80 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.30 m/s
Sensor type and S/N:	SD1165	Average density:	1025.82 kg/m^3



For Fugro Survey B.V.

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For Client

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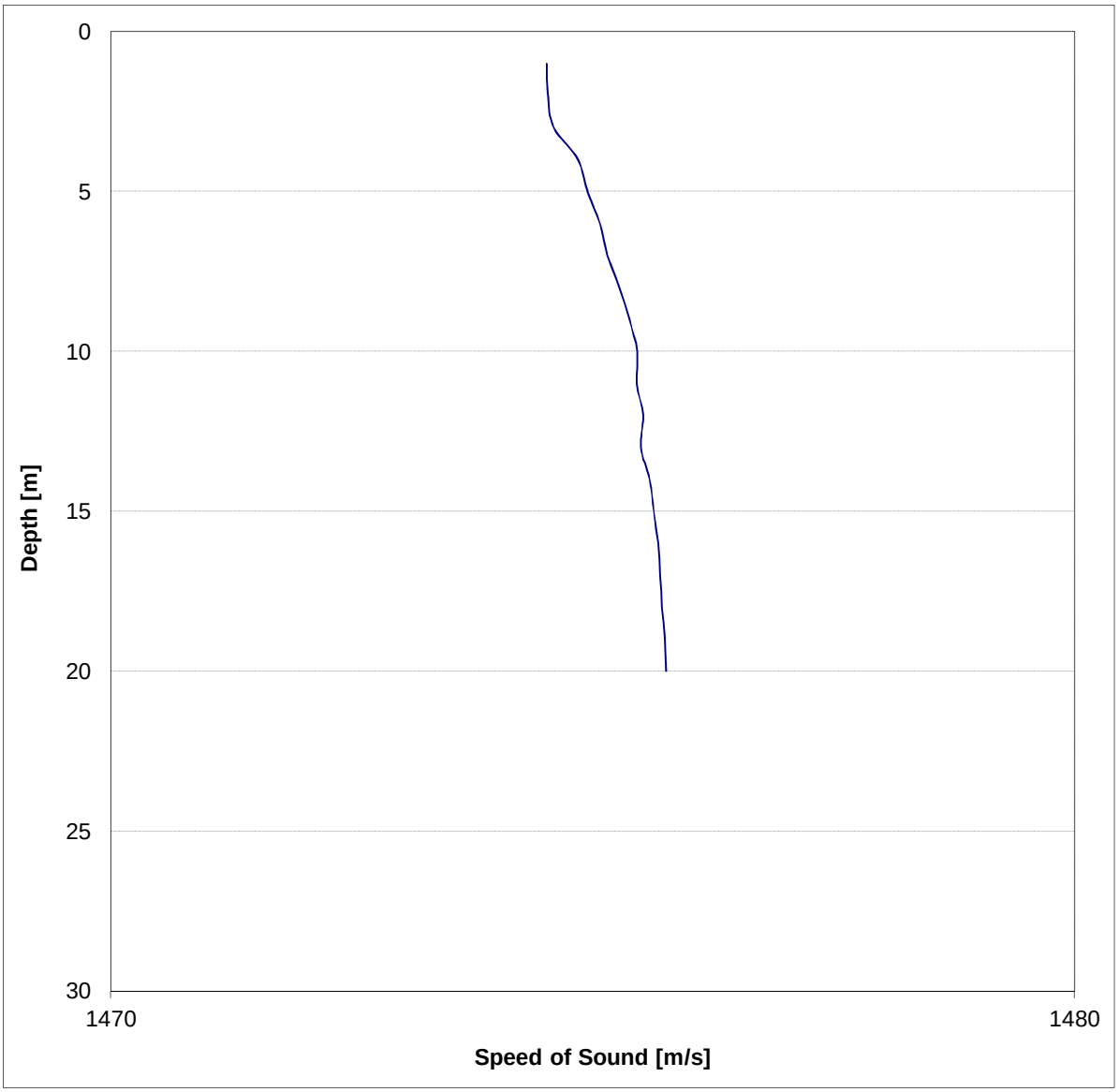
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	18:14 13/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	20.07 m
Easting:	5667724 m	Transducer speed of sound:	1474.69 m/s
Northing:	5804441 m	Bottom speed of sound:	1475.80 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.30 m/s
Sensor type and S/N:	SD1165	Average density:	1025.82 kg/m^3



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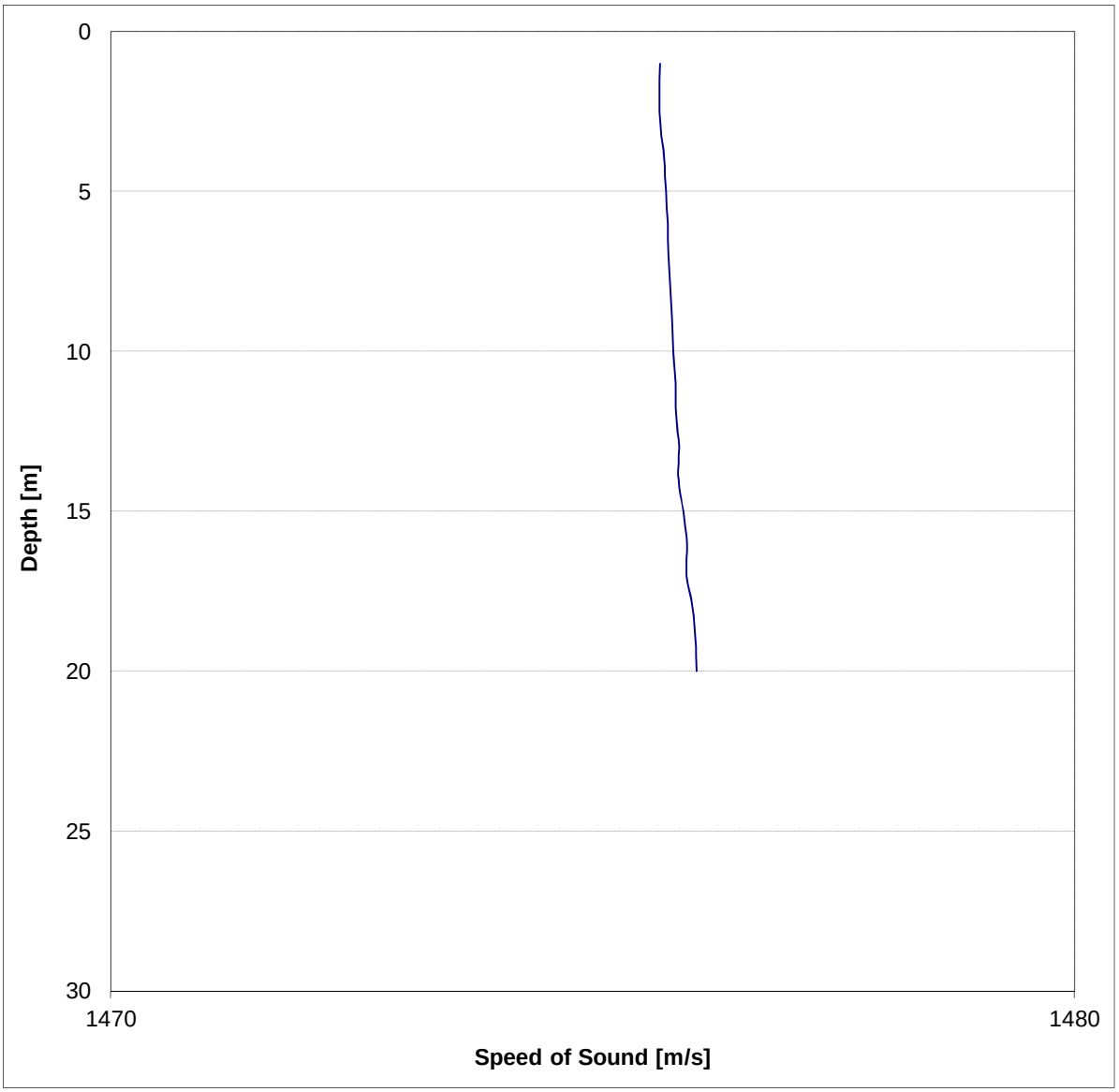
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	15:12 14/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	20.77 m
Easting:	565053 m	Transducer speed of sound:	1475.73 m/s
Northing:	5802904 m	Bottom speed of sound:	1476.04 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.86 m/s
Sensor type and S/N:	SD1165	Average density:	1026.19 kg/m^3



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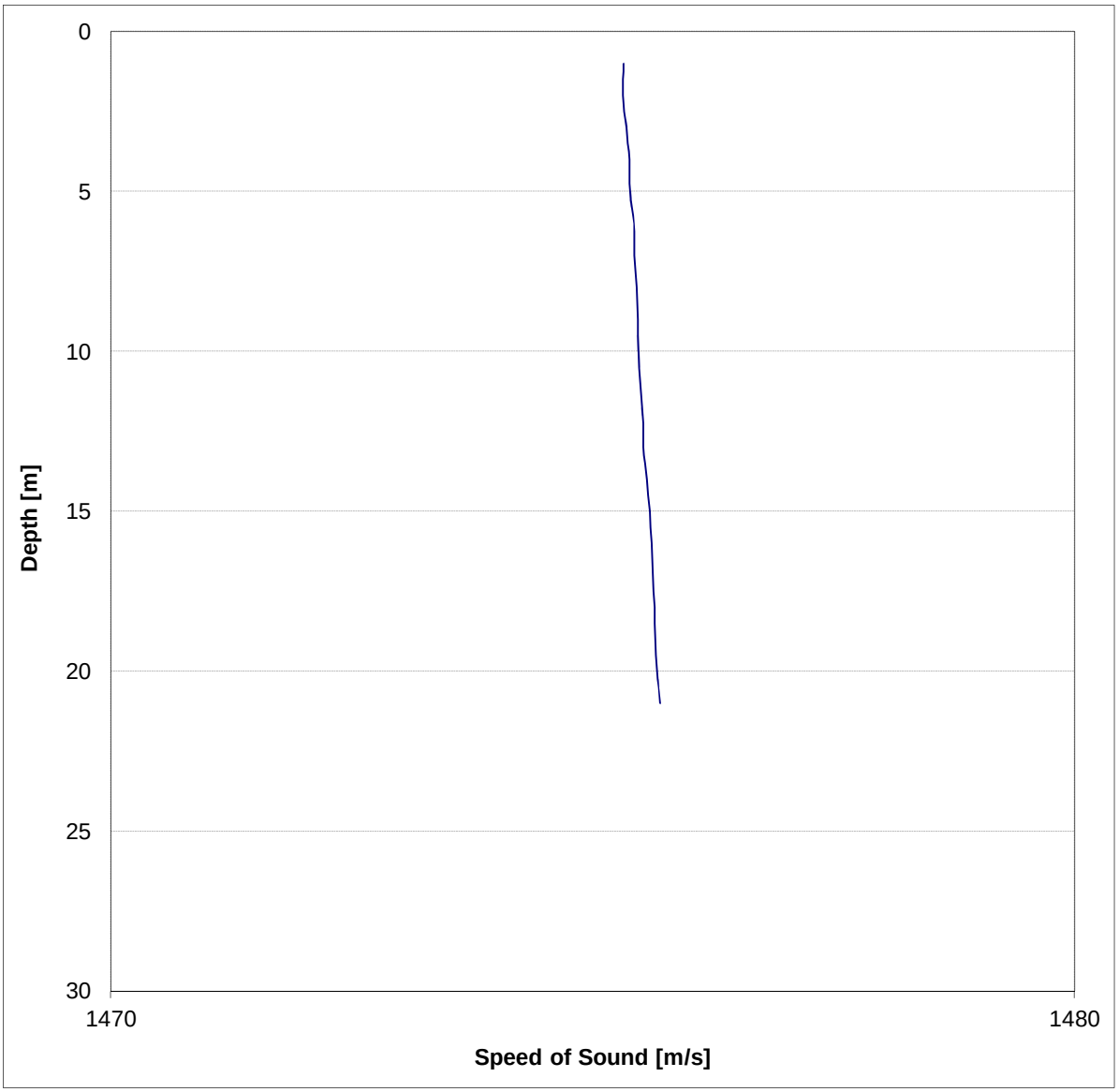
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	08:31 15/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.47 m
Easting:	563966 m	Transducer speed of sound:	1475.37 m/s
Northing:	5802455 m	Bottom speed of sound:	1475.70 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.50 m/s
Sensor type and S/N:	SD1165	Average density:	1026.09 kg/m^3



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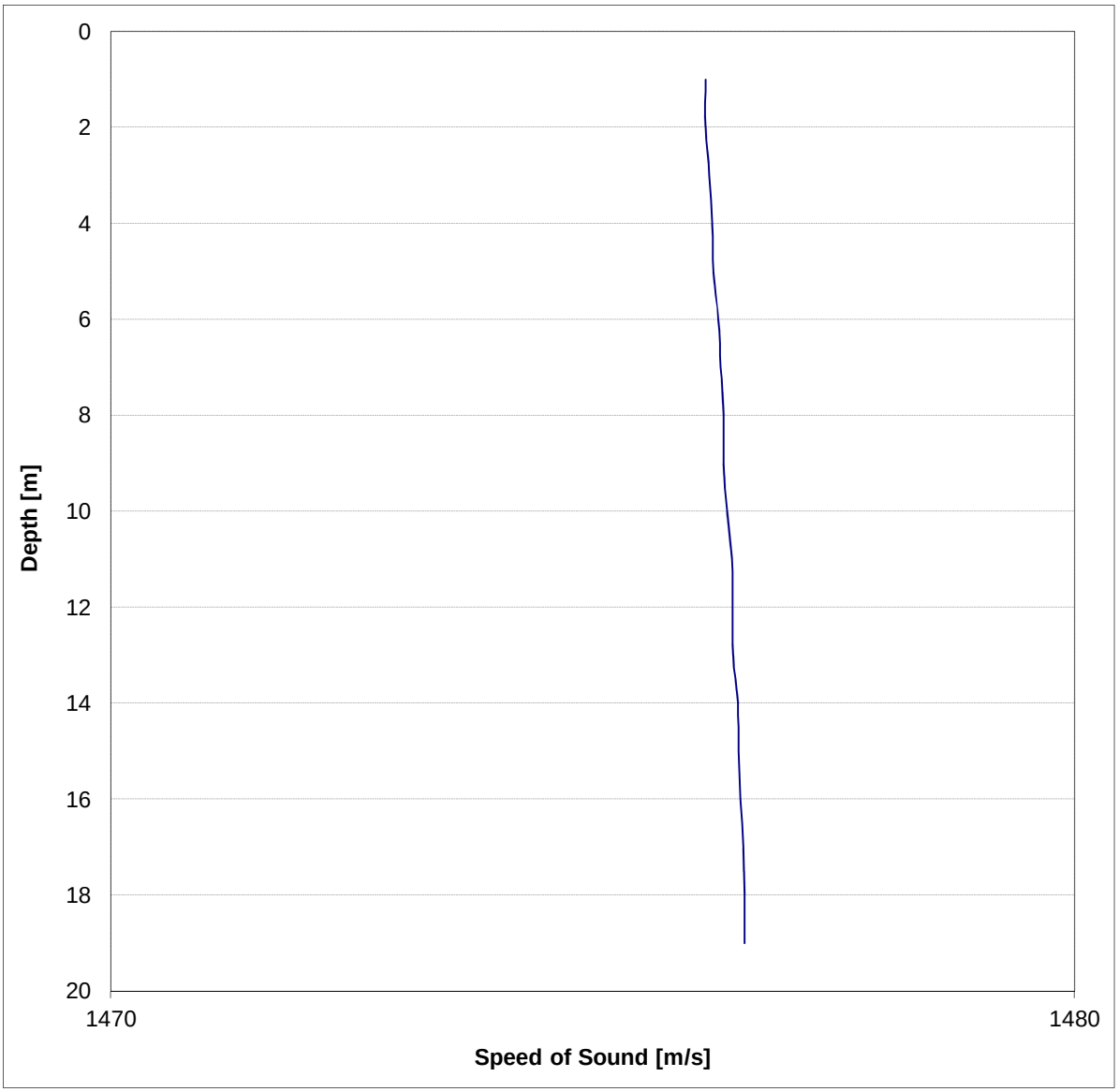
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	18:42 15/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	19.87 m
Easting:	567668 m	Transducer speed of sound:	1476.23 m/s
Northing:	5804637 m	Bottom speed of sound:	1476.59 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1476.39 m/s
Sensor type and S/N:	SD1165	Average density:	1026.43 kg/m^3



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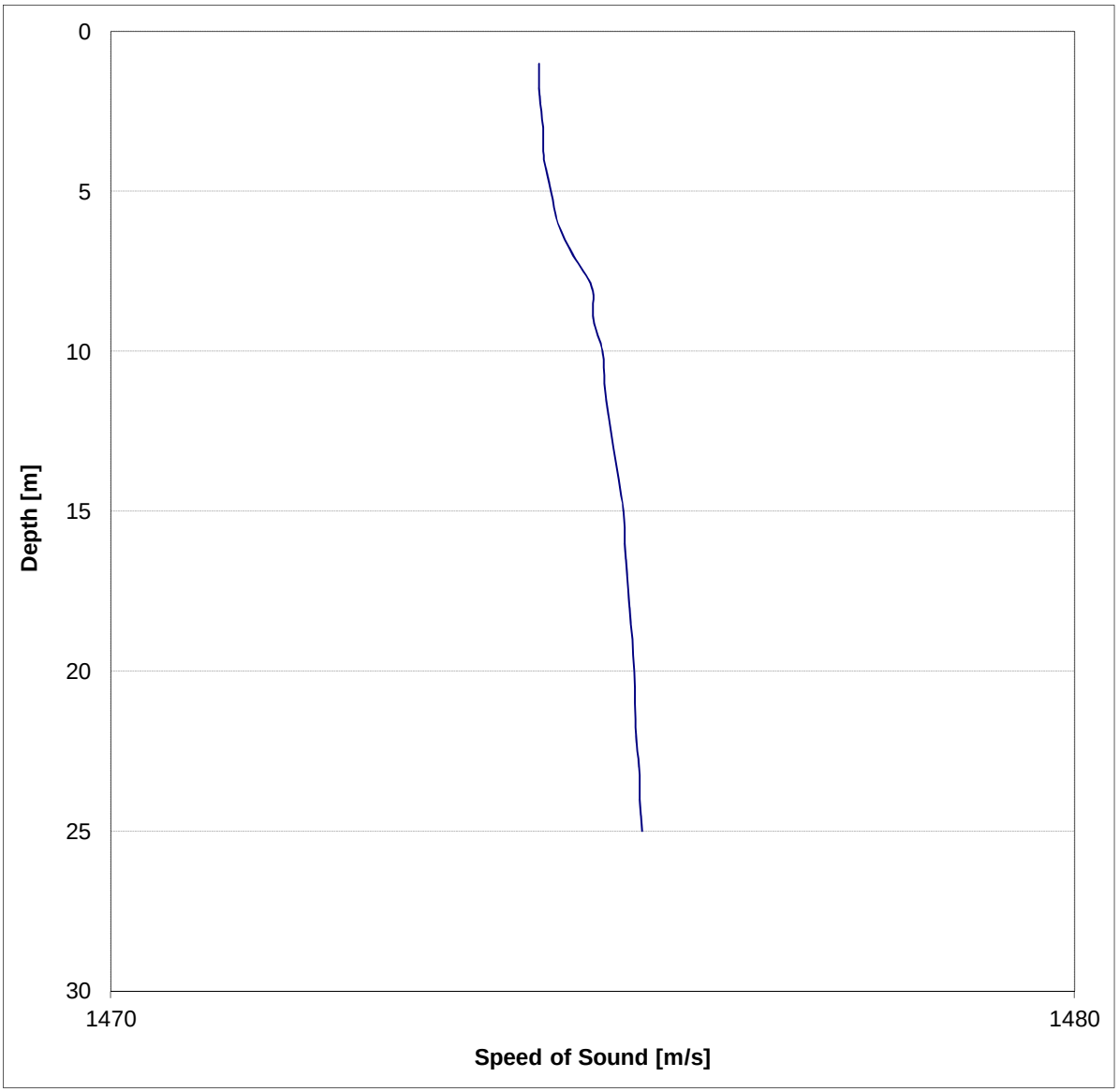
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	08:57 16/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	25.34 m
Easting:	562360 m	Transducer speed of sound:	1474.52 m/s
Northing:	5788180 m	Bottom speed of sound:	1475.52 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.09 m/s
Sensor type and S/N:	SD1165	Average density:	1025.67 kg/m^3



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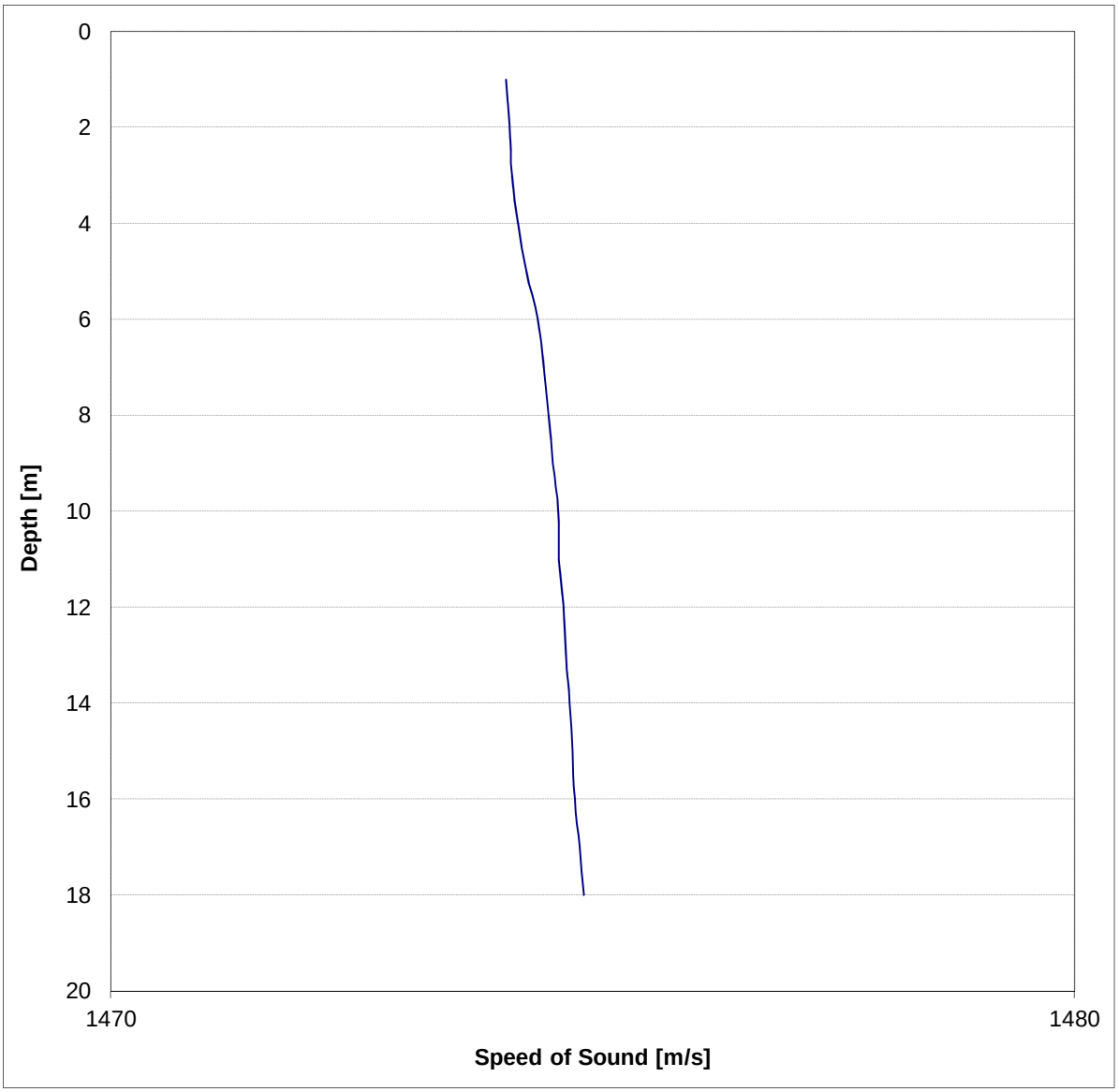
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	18:42 16/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	18.98 m
Easting:	575877 m	Transducer speed of sound:	1474.19 m/s
Northing:	5802799 m	Bottom speed of sound:	1474.93 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1474.54 m/s
Sensor type and S/N:	SD1165	Average density:	1025.65 kg/m^3



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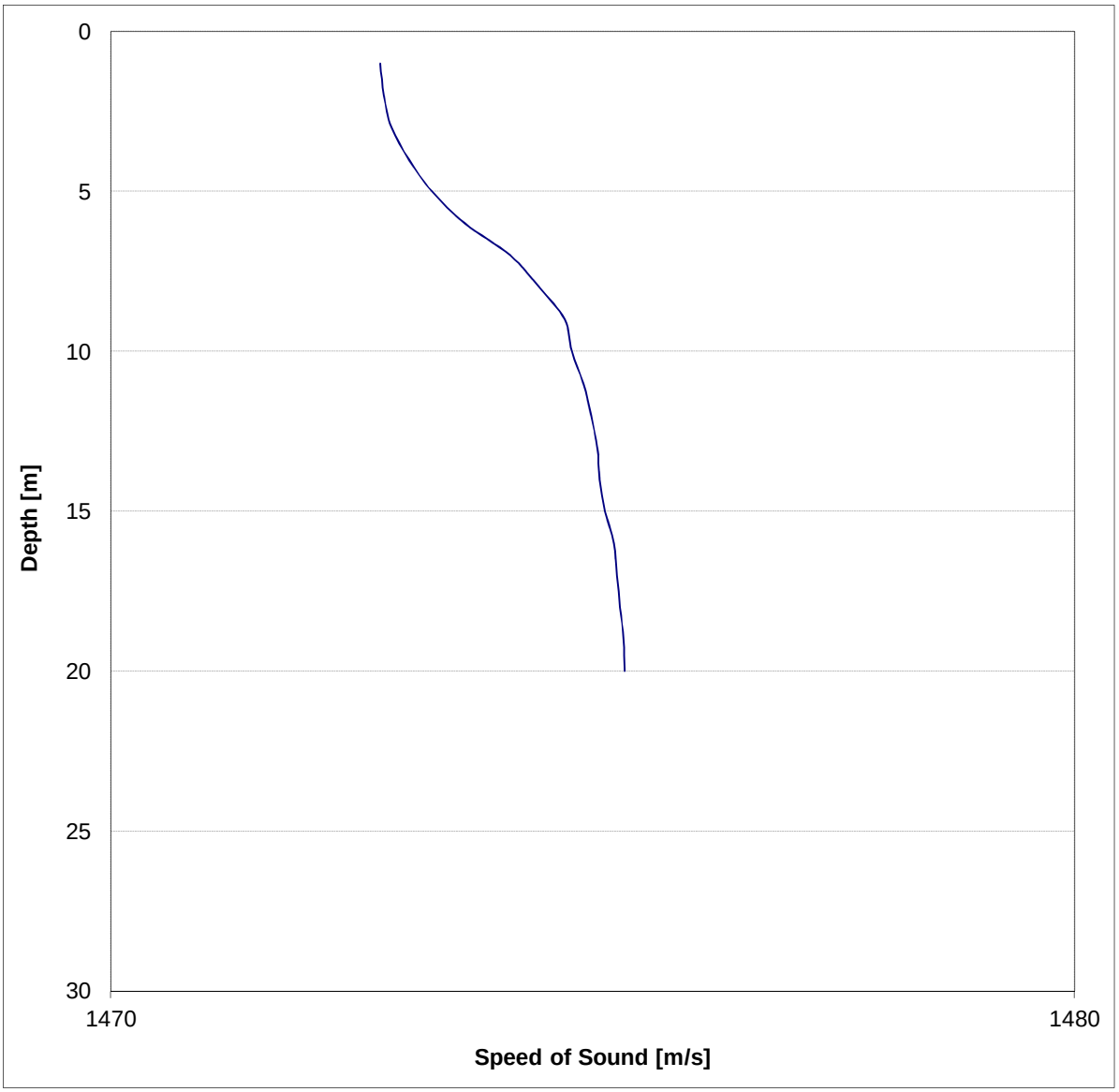
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	07:29 17/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	20.13 m
Easting:	574968 m	Transducer speed of sound:	1472.95 m/s
Northing:	5799769 m	Bottom speed of sound:	1475.33 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1474.41 m/s
Sensor type and S/N:	SD1165	Average density:	1025.59 kg/m^3



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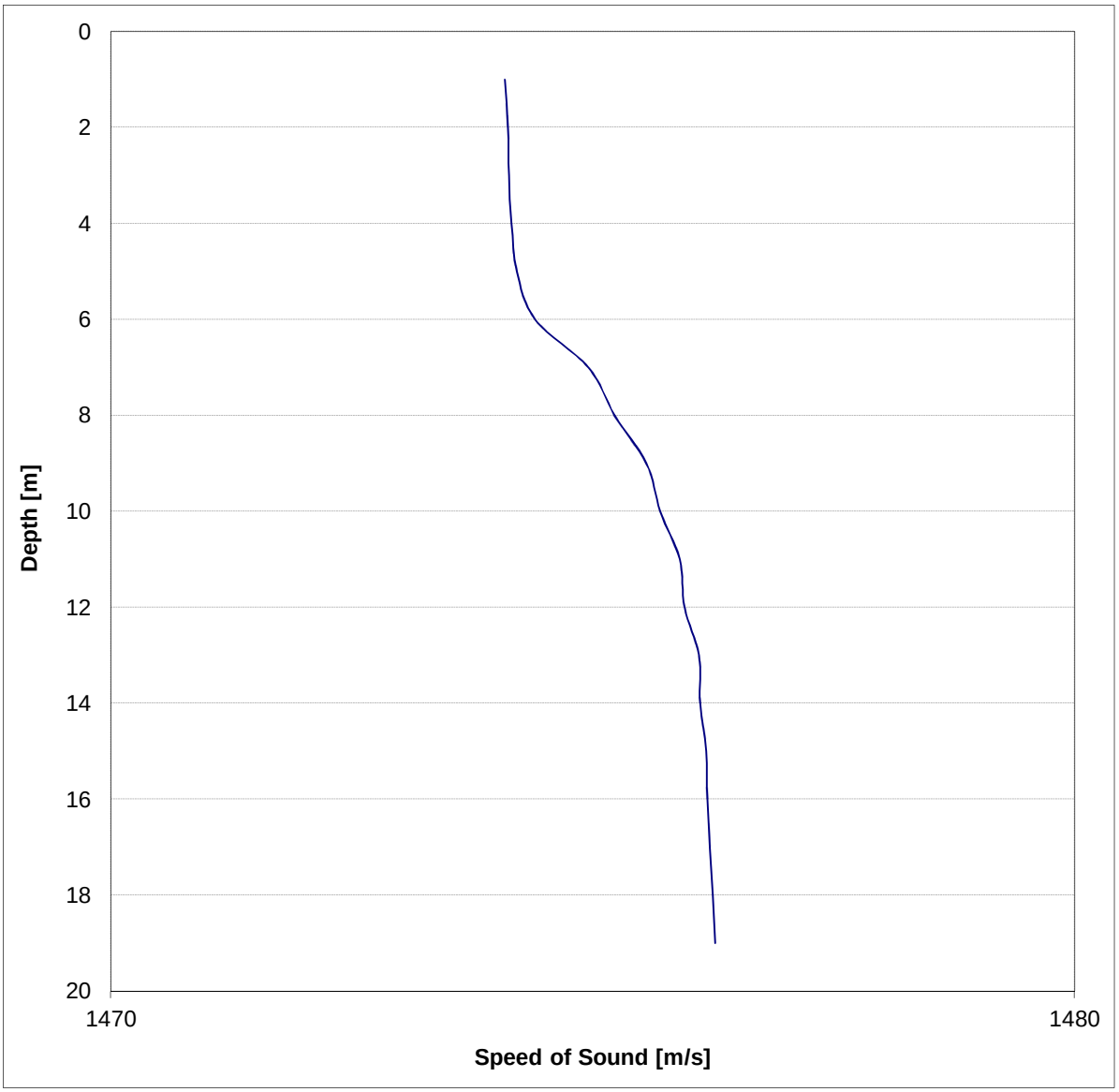
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	23:10 17/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	19.13 m
Easting:	575781 m	Transducer speed of sound:	1474.13 m/s
Northing:	5805616 m	Bottom speed of sound:	1476.27 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.35 m/s
Sensor type and S/N:	SD1165	Average density:	1025.95 kg/m^3



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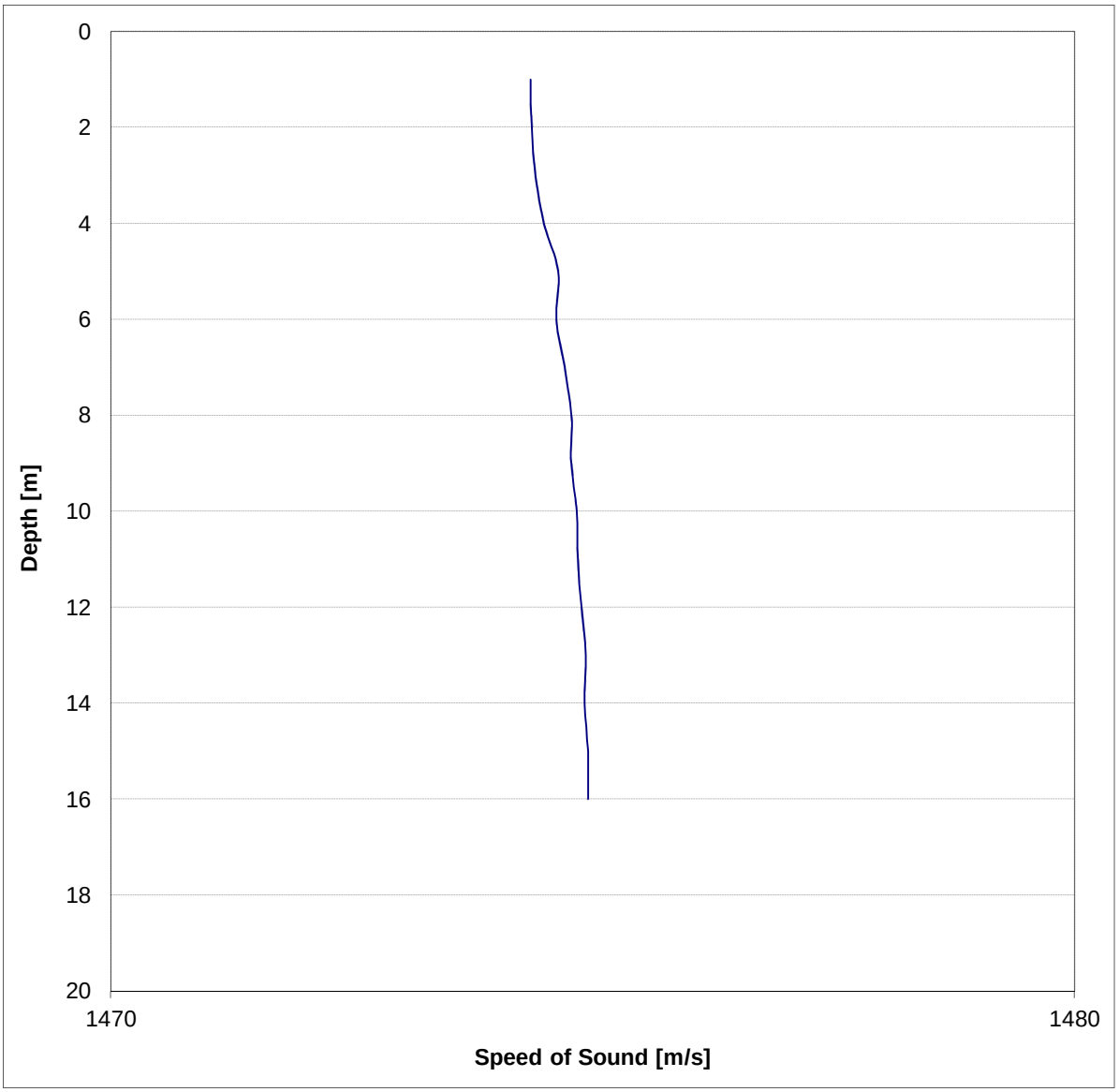
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	11:46 18/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	16.24 m
Easting:	566408 m	Transducer speed of sound:	1474.44 m/s
Northing:	5788725 m	Bottom speed of sound:	1474.97 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1474.71 m/s
Sensor type and S/N:	SD1165	Average density:	1025.53 kg/m^3



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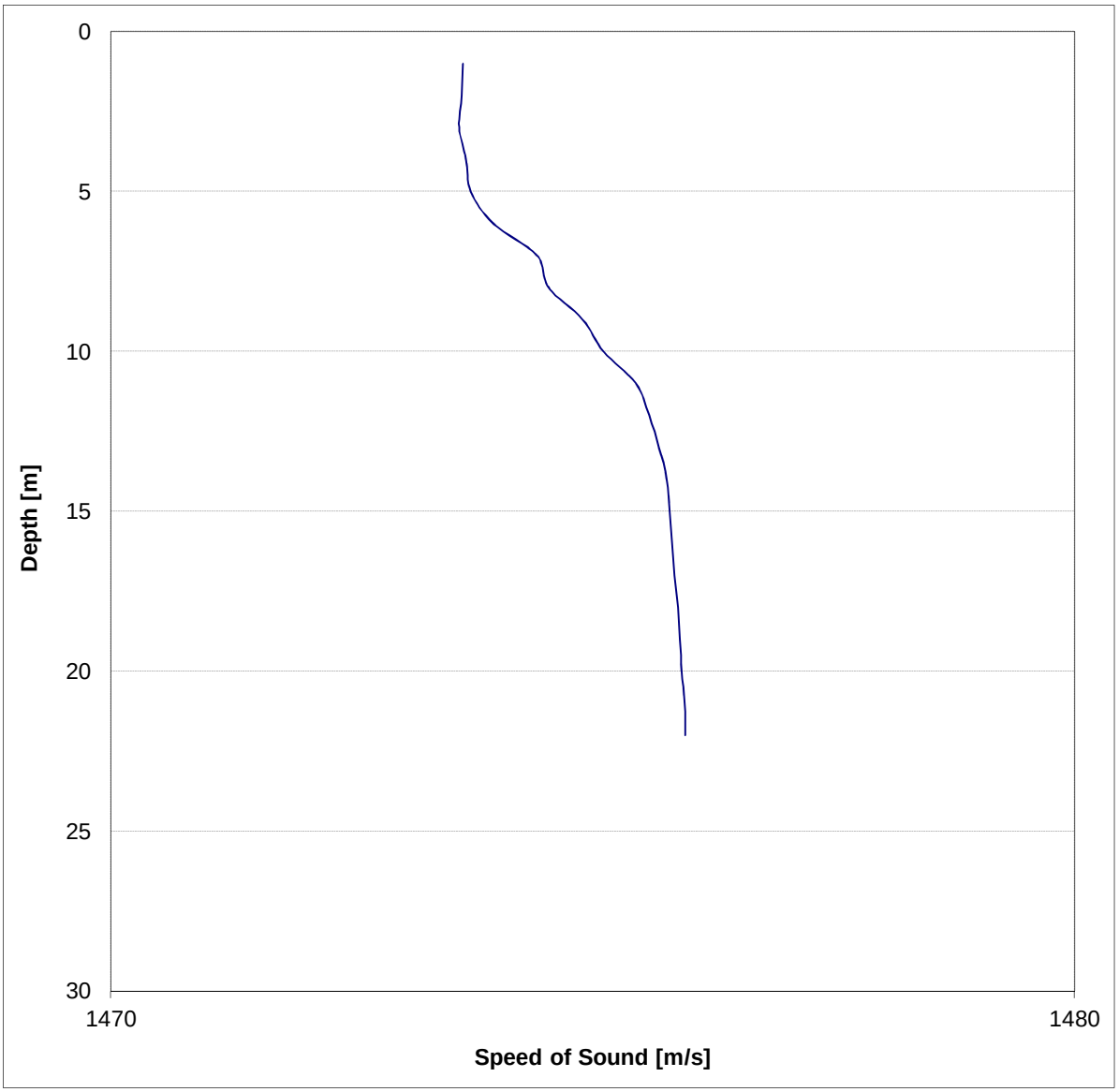
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	00:39 19/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	22.74 m
Easting:	572344 m	Transducer speed of sound:	1473.60 m/s
Northing:	5799127 m	Bottom speed of sound:	1475.99 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.04 m/s
Sensor type and S/N:	SD1165	Average density:	1025.72 kg/m^3



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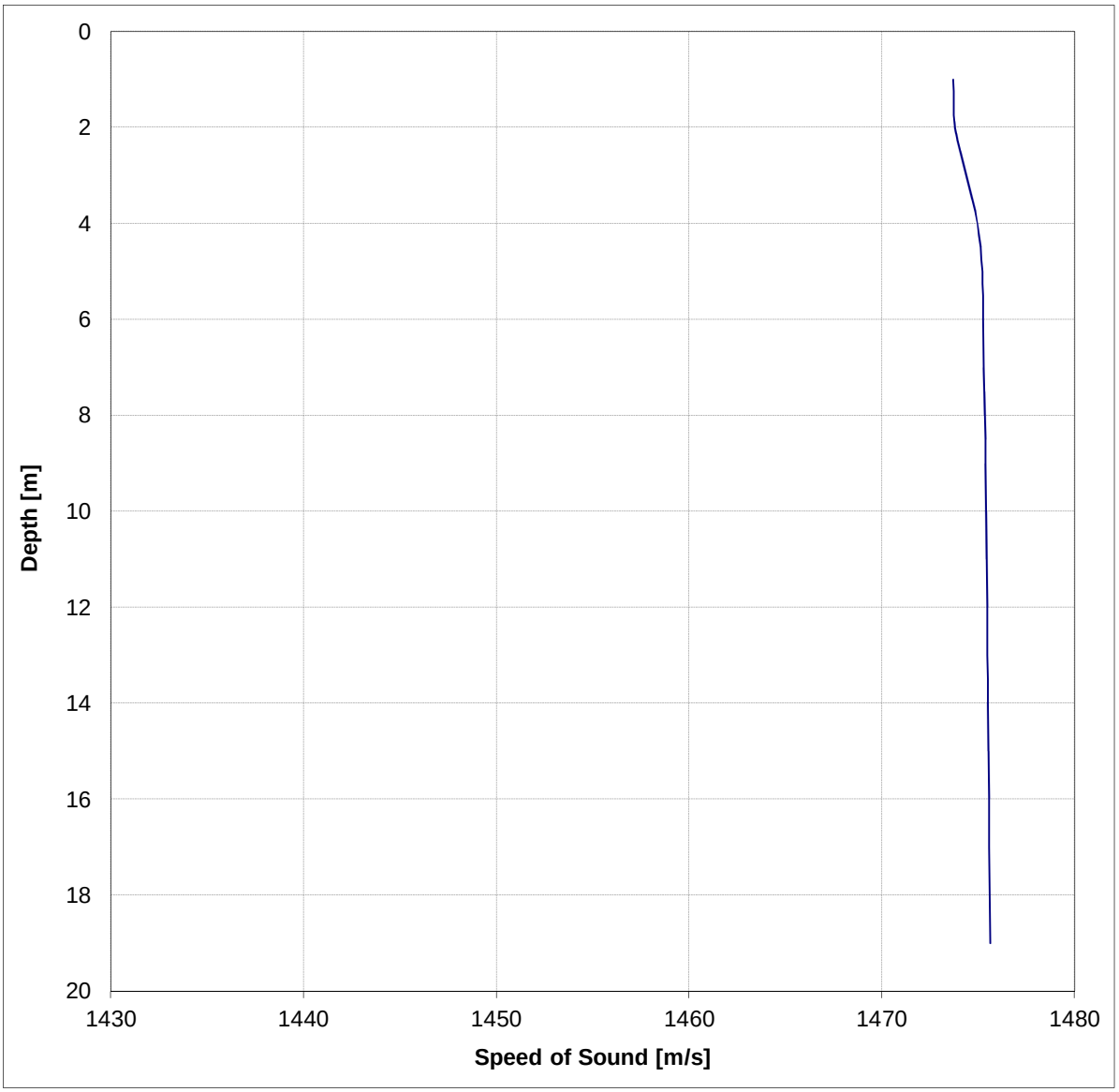
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	18:16 19/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	19.41 m
Easting:	570530 m	Transducer speed of sound:	1474.66 m/s
Northing:	5792222 m	Bottom speed of sound:	1475.67 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.18 m/s
Sensor type and S/N:	SD1165	Average density:	1025.78 kg/m^3



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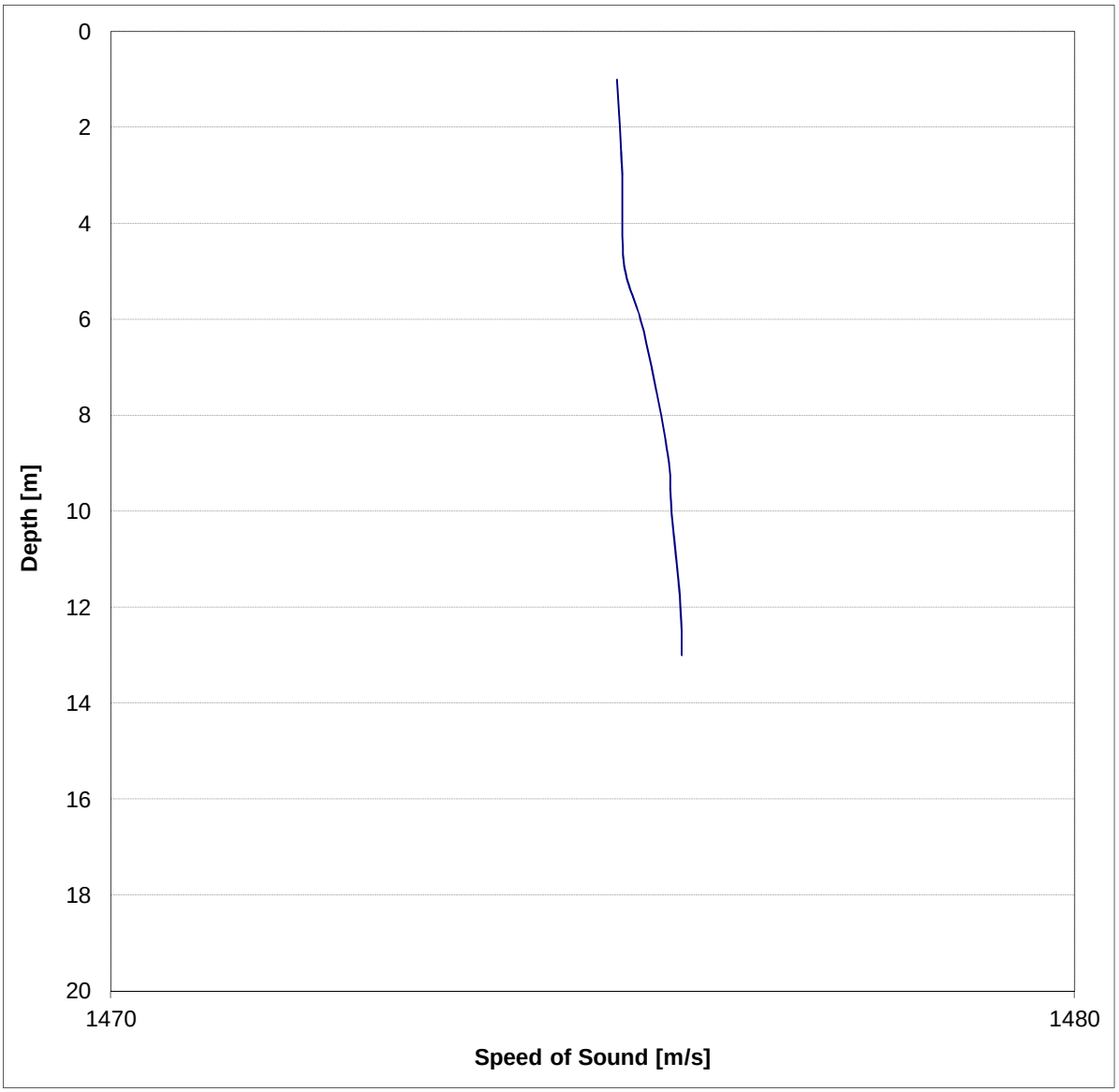
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	14:47 20/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	13.56 m
Easting:	569217 m	Transducer speed of sound:	1475.32 m/s
Northing:	5795758 m	Bottom speed of sound:	1475.92 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.58 m/s
Sensor type and S/N:	SD1165	Average density:	1025.81 kg/m^3



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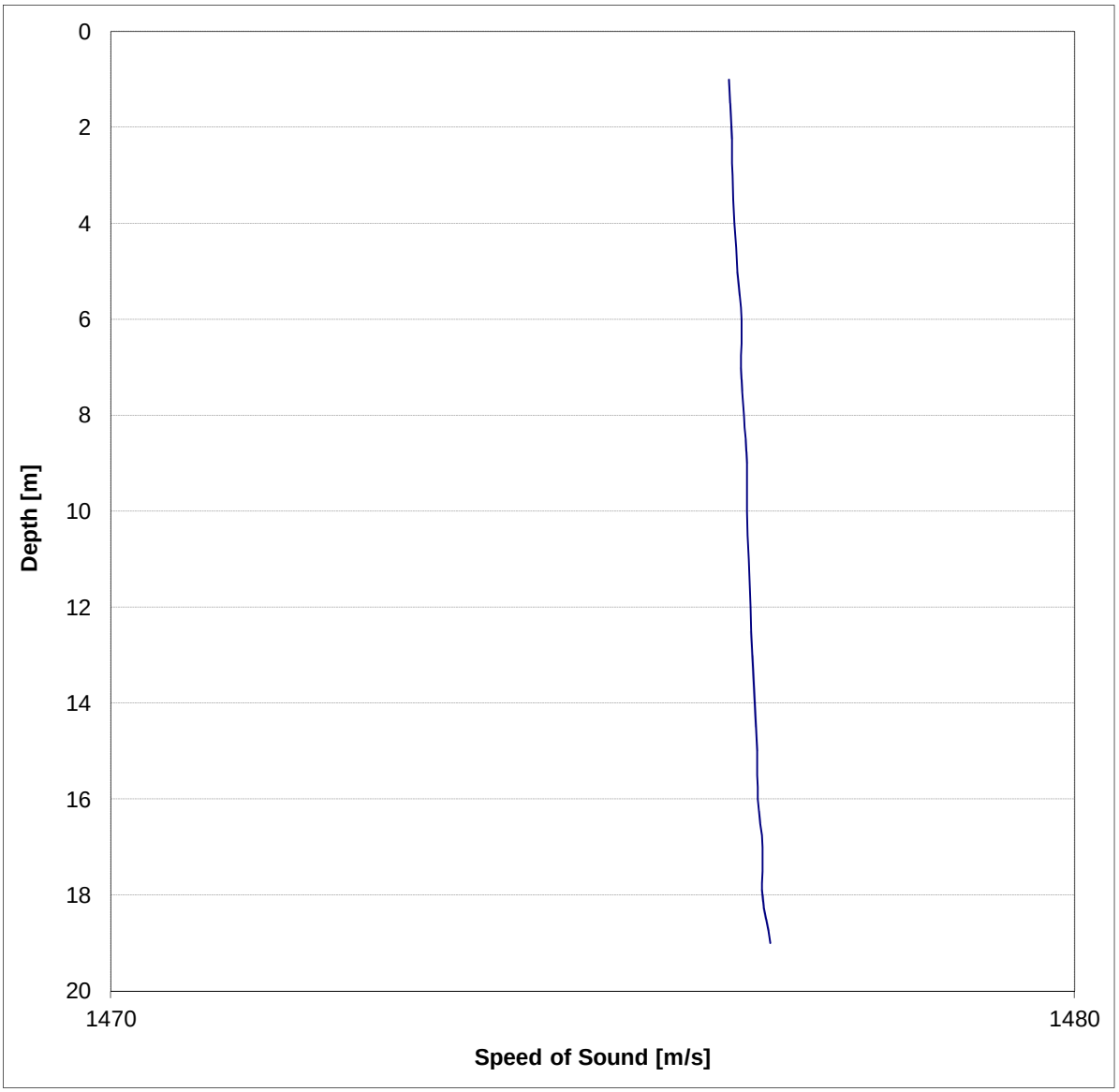
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	17:36 20/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	19.07 m
Easting:	571745 m	Transducer speed of sound:	1476.44 m/s
Northing:	5801545 m	Bottom speed of sound:	1476.83 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1476.60 m/s
Sensor type and S/N:	SD1165	Average density:	1026.39 kg/m^3



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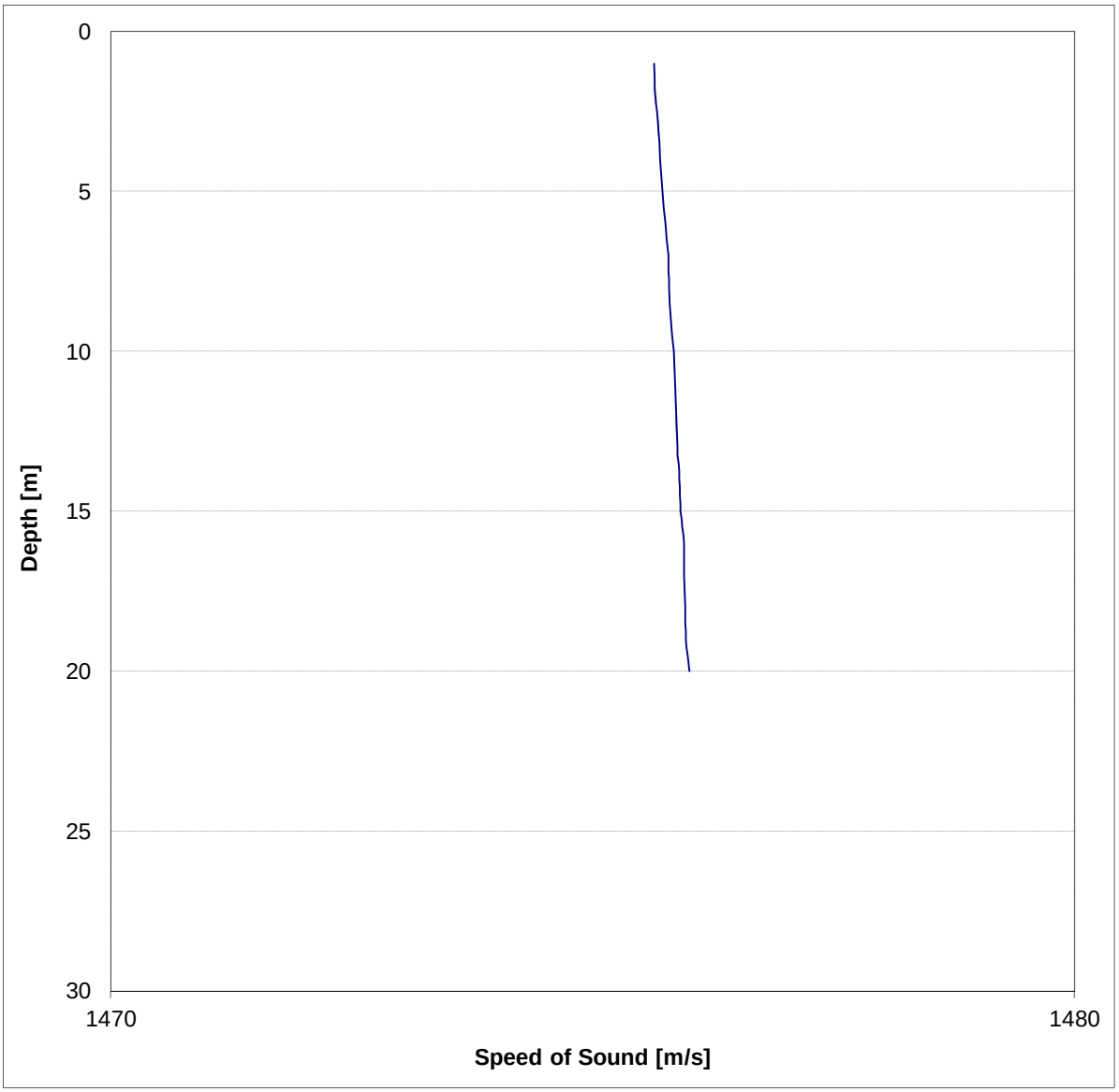
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	20:10 20/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	20.49 m
Easting:	567340 m	Transducer speed of sound:	1475.71 m/s
Northing:	5792426 m	Bottom speed of sound:	1476.01 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.83 m/s
Sensor type and S/N:	SD1165	Average density:	1026.04 kg/m^3



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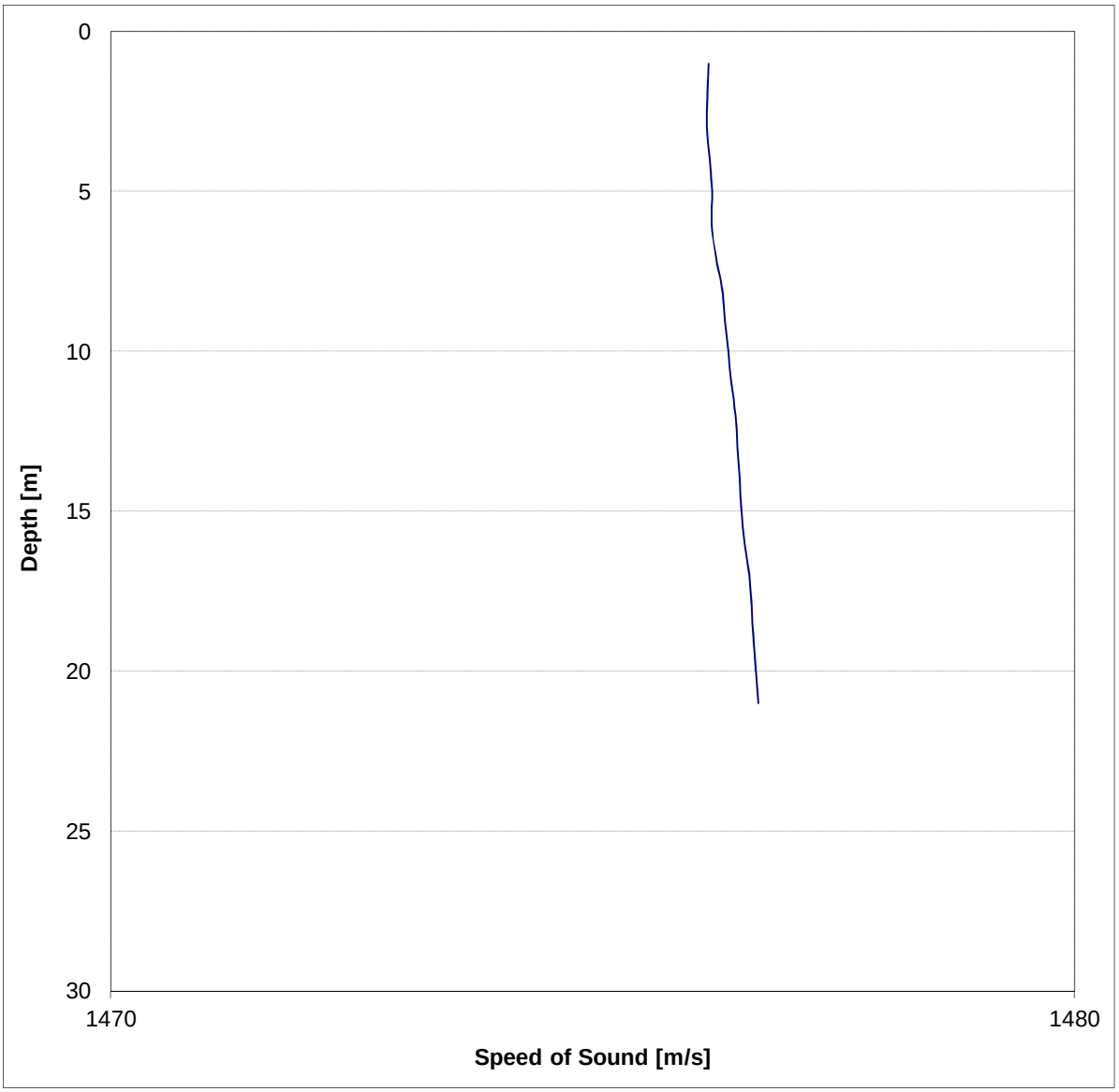
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	06:04 21/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.06 m
Easting:	574321 m	Transducer speed of sound:	1476.18 m/s
Northing:	5808536 m	Bottom speed of sound:	1476.71 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1476.43 m/s
Sensor type and S/N:	SD1165	Average density:	1026.34 kg/m^3



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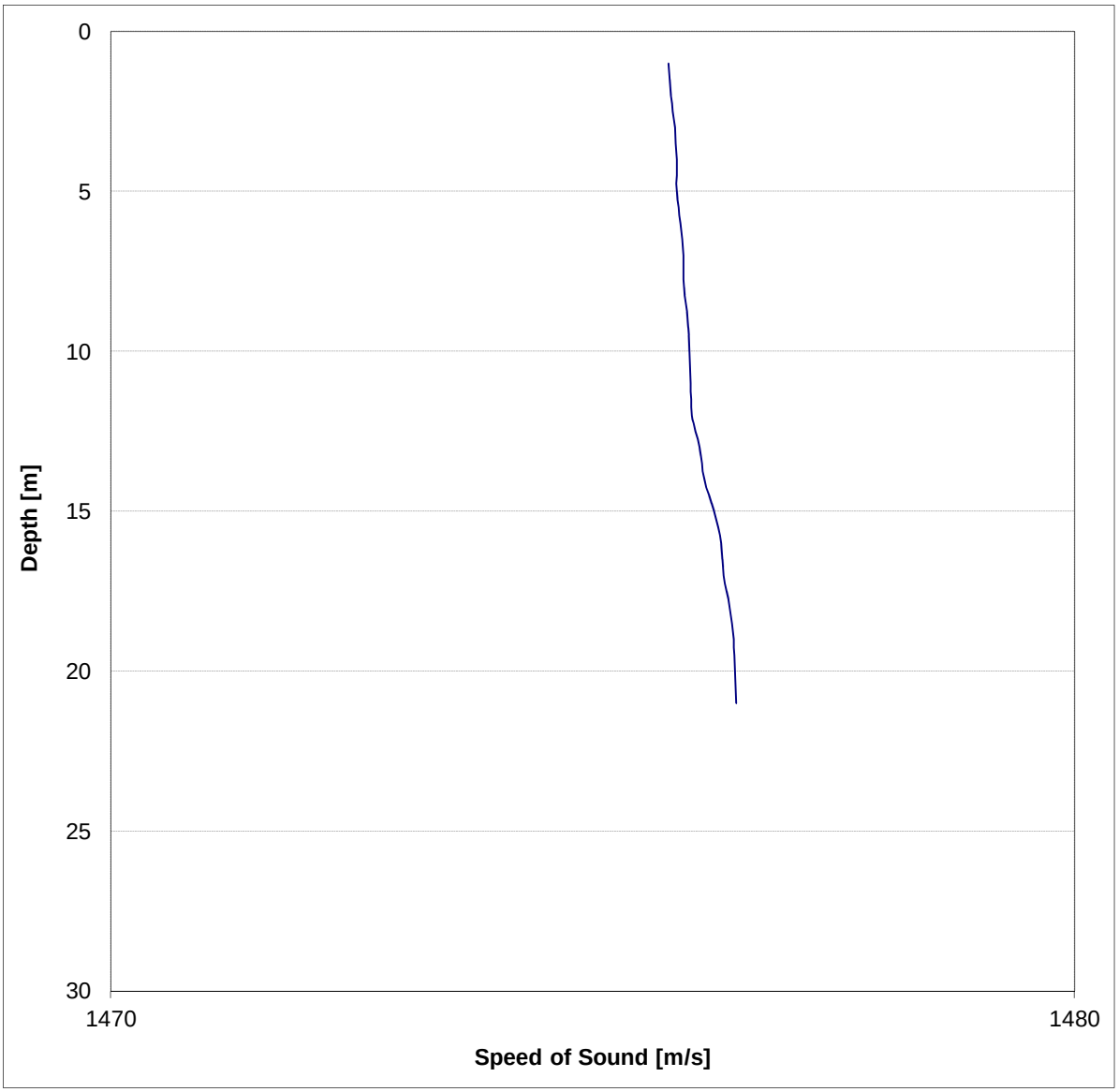
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	17:41 21/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.35 m
Easting:	564517 m	Transducer speed of sound:	1475.88 m/s
Northing:	5788644 m	Bottom speed of sound:	1476.49 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1476.10 m/s
Sensor type and S/N:	SD1165	Average density:	1026.00 kg/m^3



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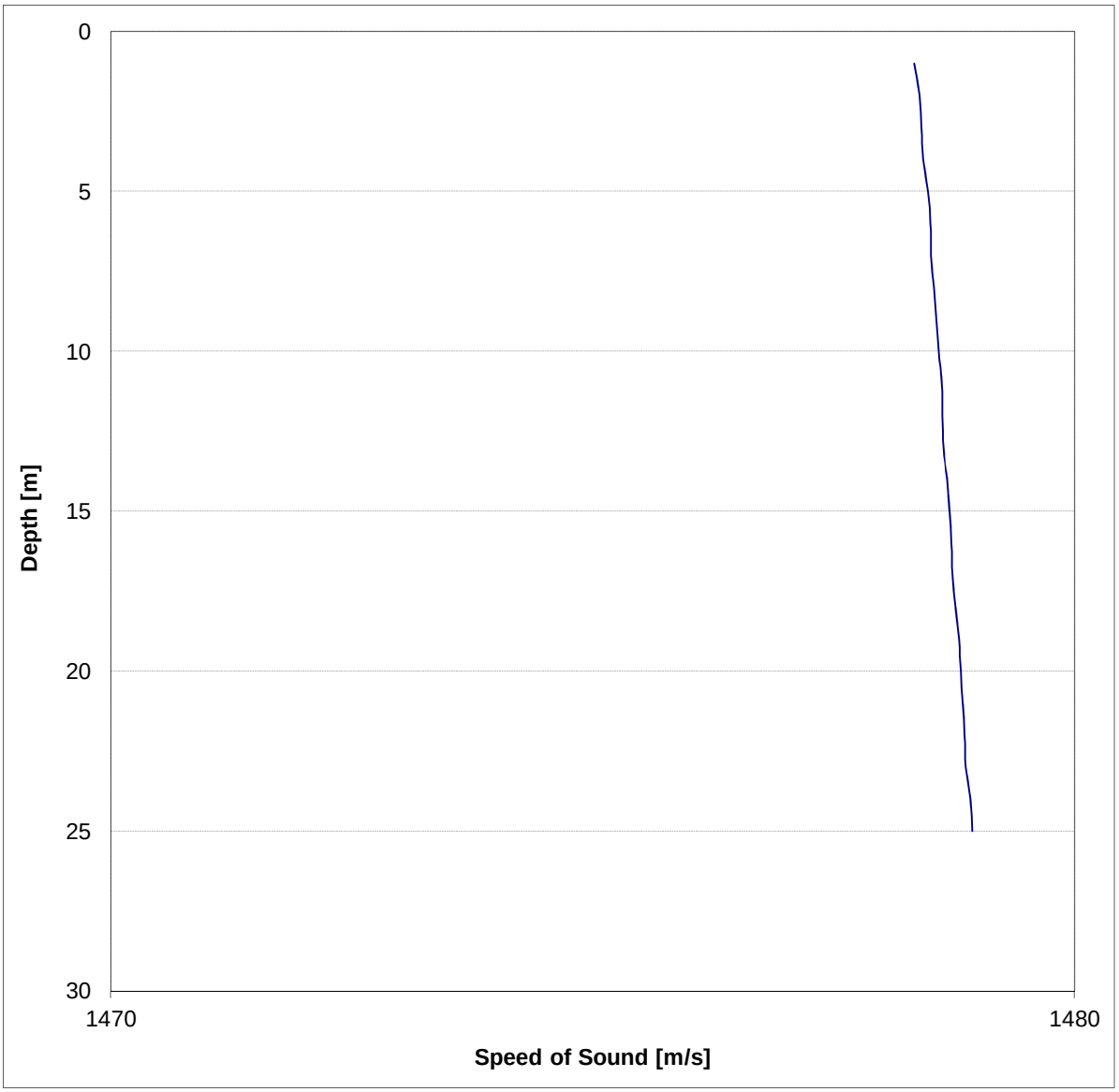
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	05:59 22/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	25.01 m
Easting:	562673 m	Transducer speed of sound:	1478.39 m/s
Northing:	5801752 m	Bottom speed of sound:	1478.95 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.65 m/s
Sensor type and S/N:	SD1165	Average density:	1027.09 kg/m^3



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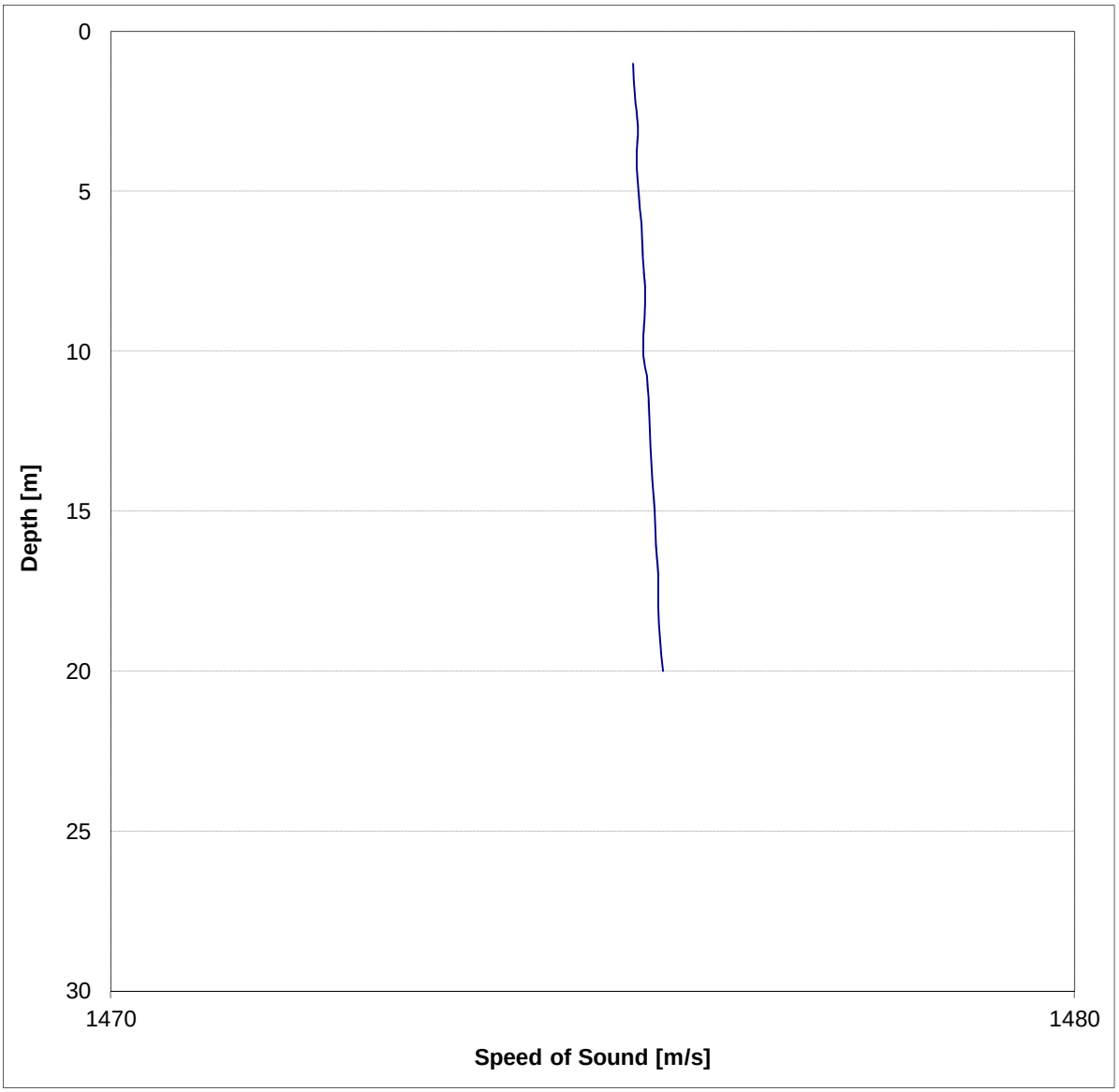
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	10:21 22/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	20.03 m
Easting:	574982 m	Transducer speed of sound:	1475.46 m/s
Northing:	5803962 m	Bottom speed of sound:	1475.72 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.57 m/s
Sensor type and S/N:	SD1165	Average density:	1025.83 kg/m^3



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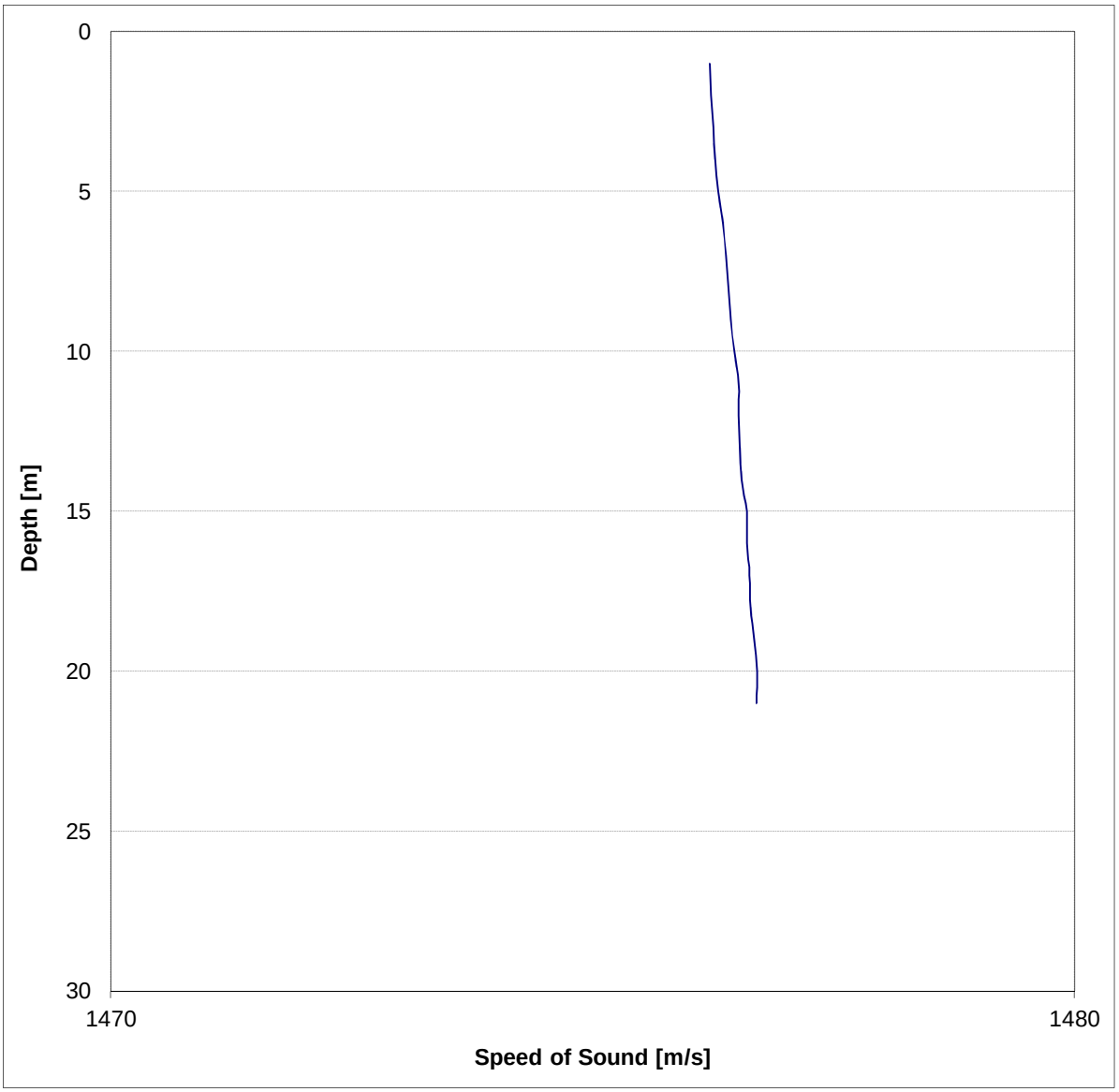
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	19:22 22/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.65 m
Easting:	573255 m	Transducer speed of sound:	1476.25 m/s
Northing:	5804502 m	Bottom speed of sound:	1476.71 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1476.47 m/s
Sensor type and S/N:	SD1165	Average density:	1026.12 kg/m^3



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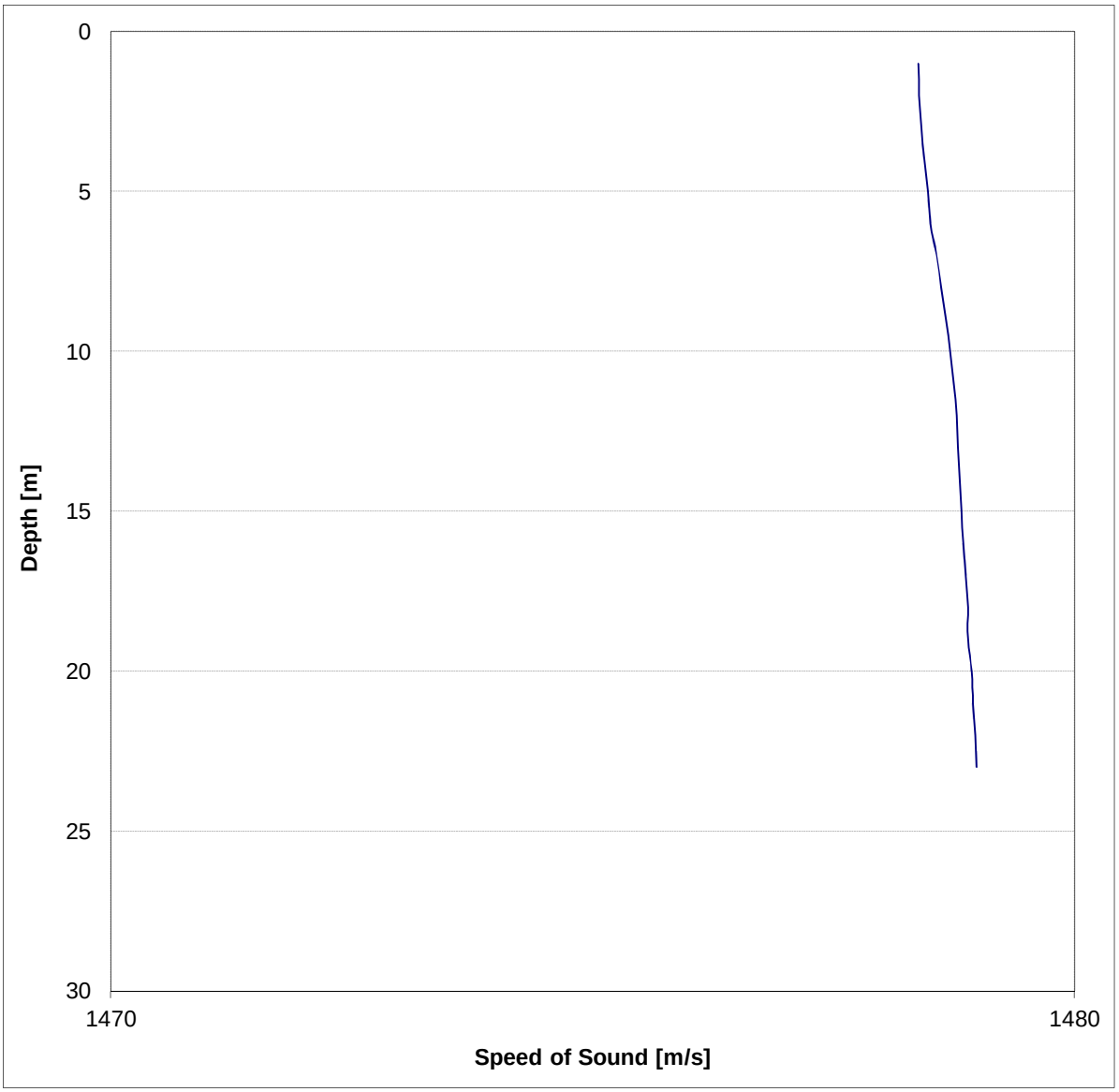
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	06:28 23/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	23.80 m
Easting:	562306 m	Transducer speed of sound:	1478.41 m/s
Northing:	5797618 m	Bottom speed of sound:	1479.01 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.71 m/s
Sensor type and S/N:	SD1165	Average density:	1027.01 kg/m^3



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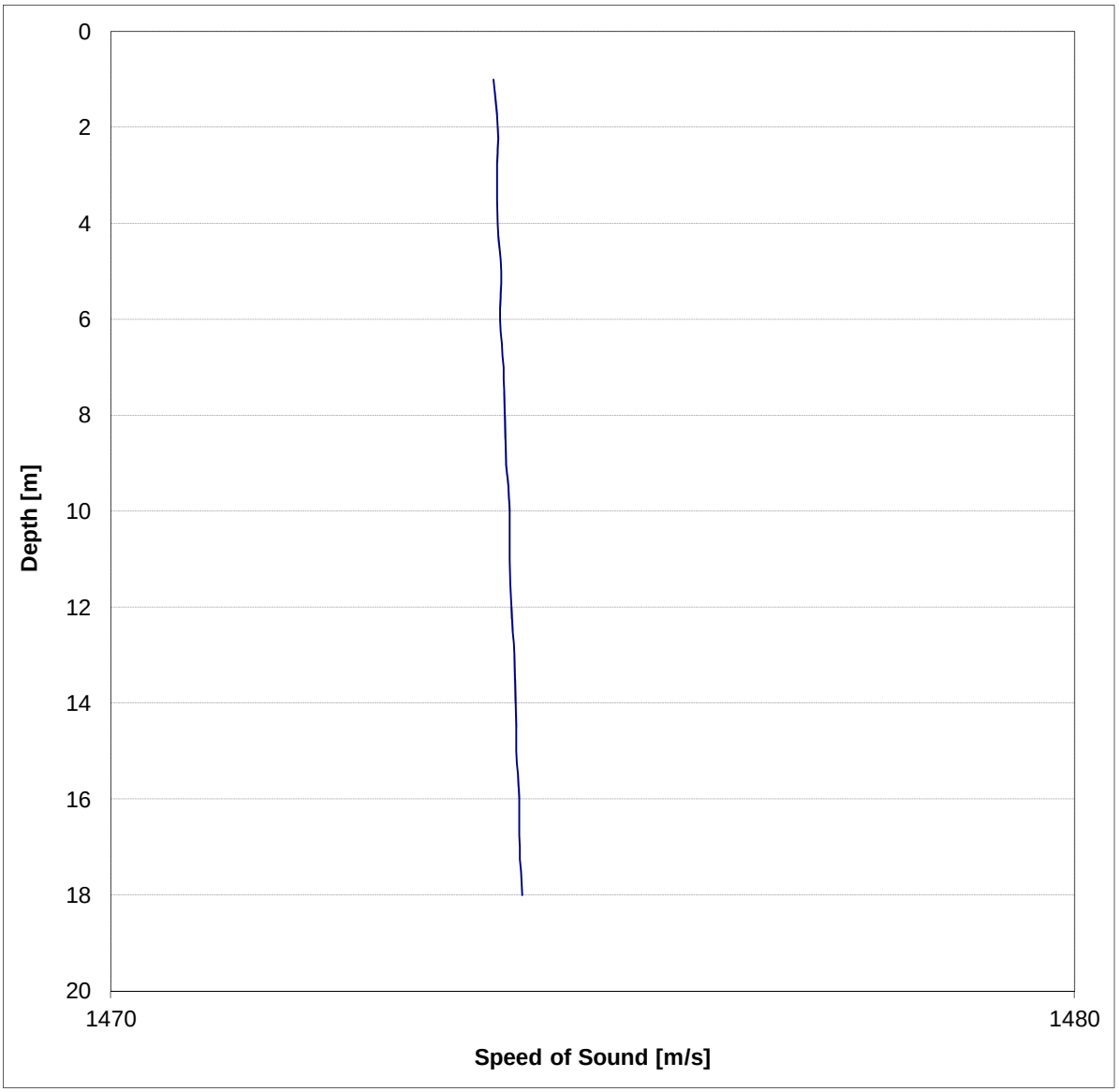
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	10:30 23/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	18.53 m
Easting:	580261 m	Transducer speed of sound:	1474.00 m/s
Northing:	5797374 m	Bottom speed of sound:	1474.27 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1474.12 m/s
Sensor type and S/N:	SD1165	Average density:	1024.93 kg/m^3



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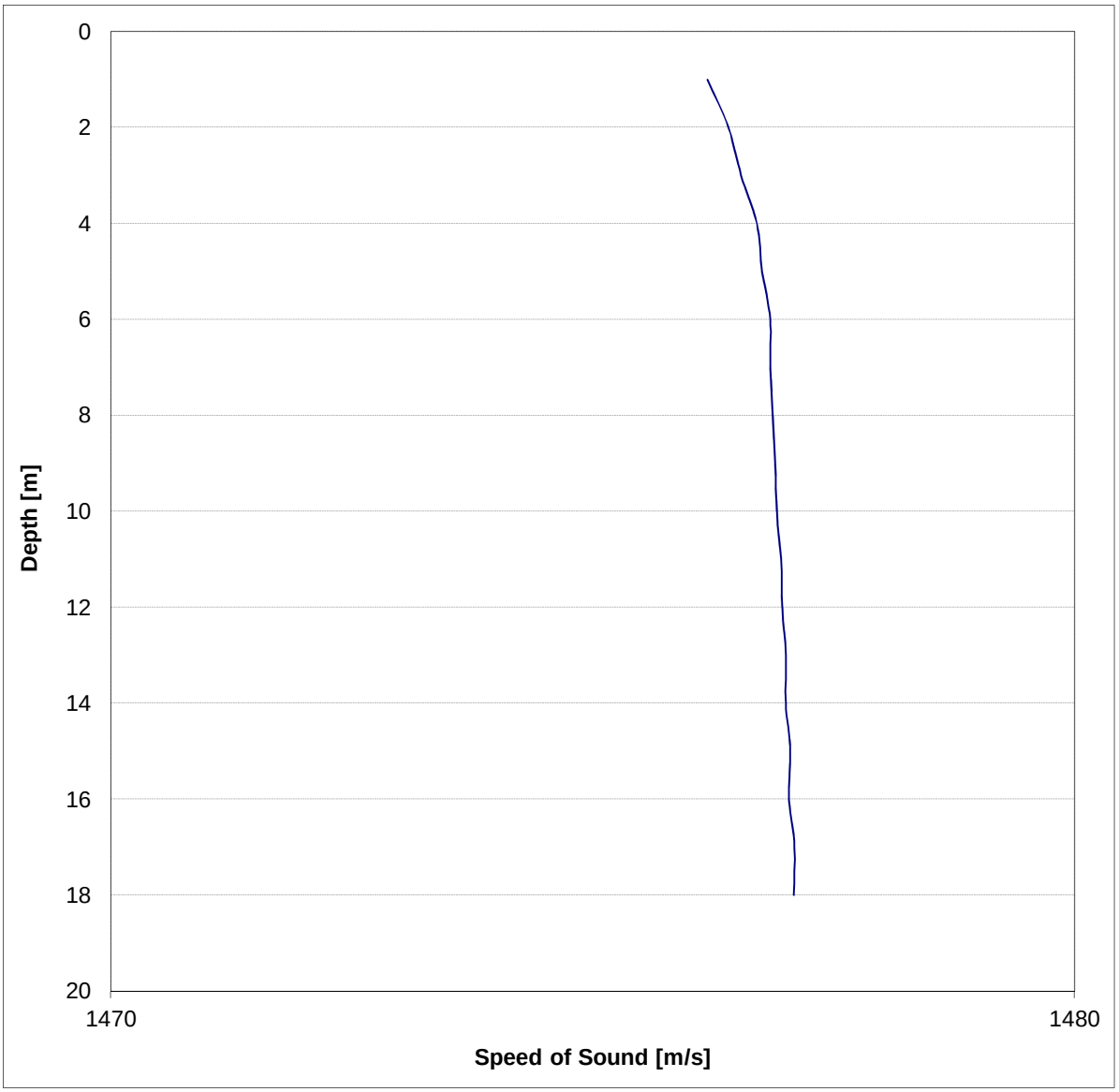
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	15:32 23/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	18.19 m
Easting:	566352 m	Transducer speed of sound:	1476.51 m/s
Northing:	5797677 m	Bottom speed of sound:	1477.05 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1476.84 m/s
Sensor type and S/N:	SD1165	Average density:	1026.20 kg/m^3



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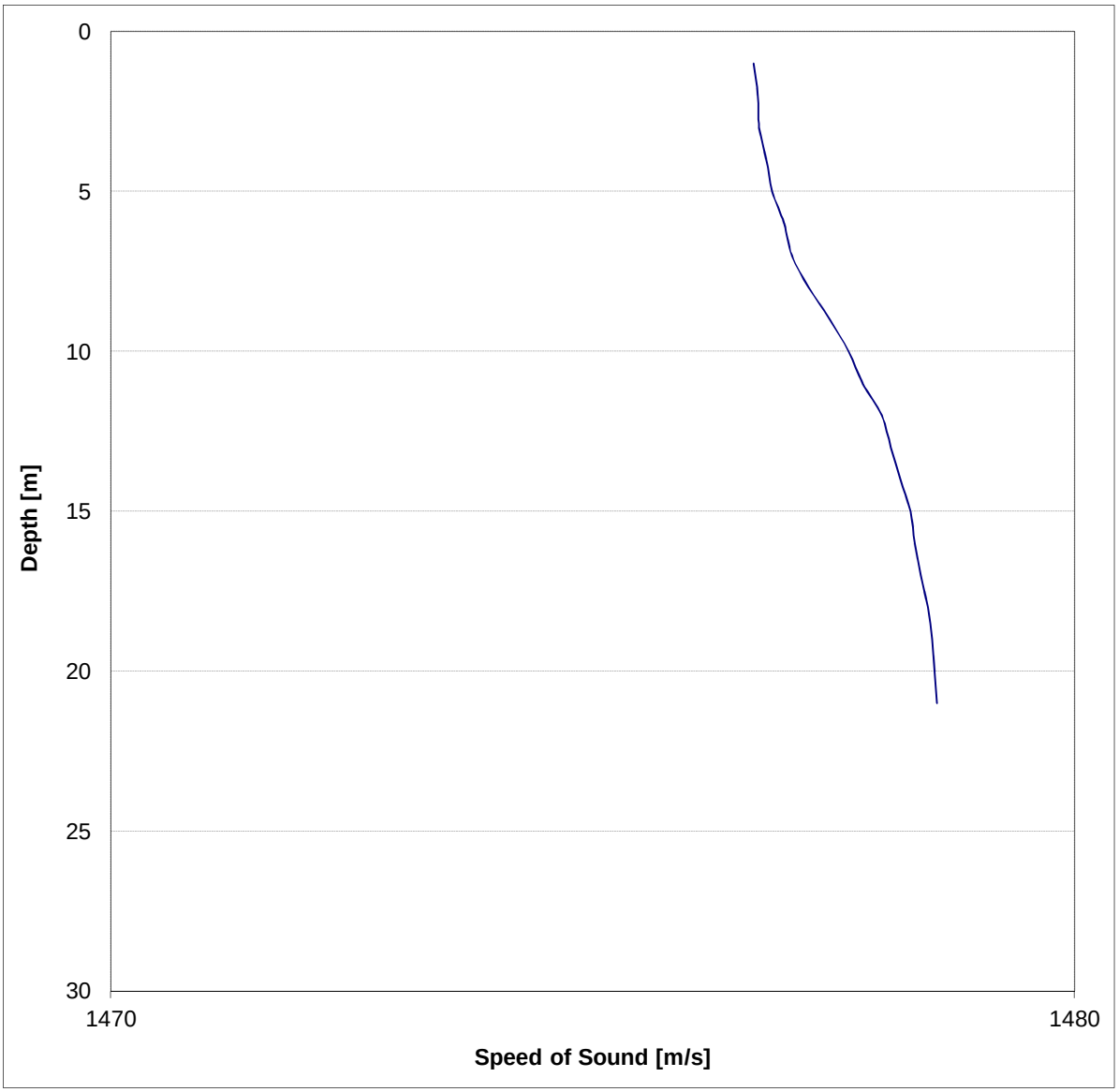
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	06:34 24/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.57 m
Easting:	564902 m	Transducer speed of sound:	1476.78 m/s
Northing:	5790448 m	Bottom speed of sound:	1478.59 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1477.68 m/s
Sensor type and S/N:	SD1165	Average density:	1026.44 kg/m^3



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For Client

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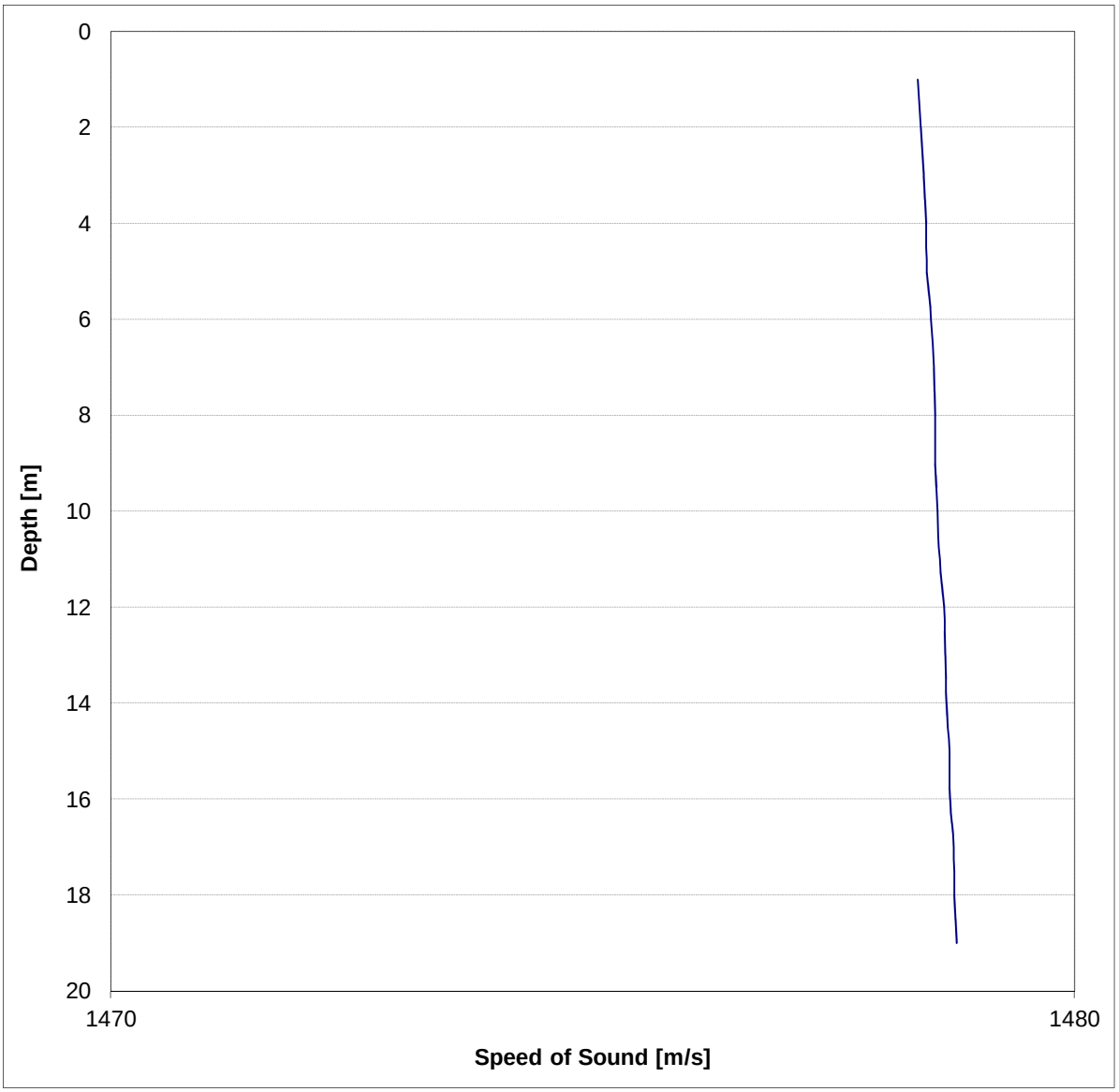
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	18:32 24/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	19.46 m
Easting:	567378 m	Transducer speed of sound:	1478.46 m/s
Northing:	5794918 m	Bottom speed of sound:	1478.80 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.58 m/s
Sensor type and S/N:	SD1165	Average density:	1026.64 kg/m^3



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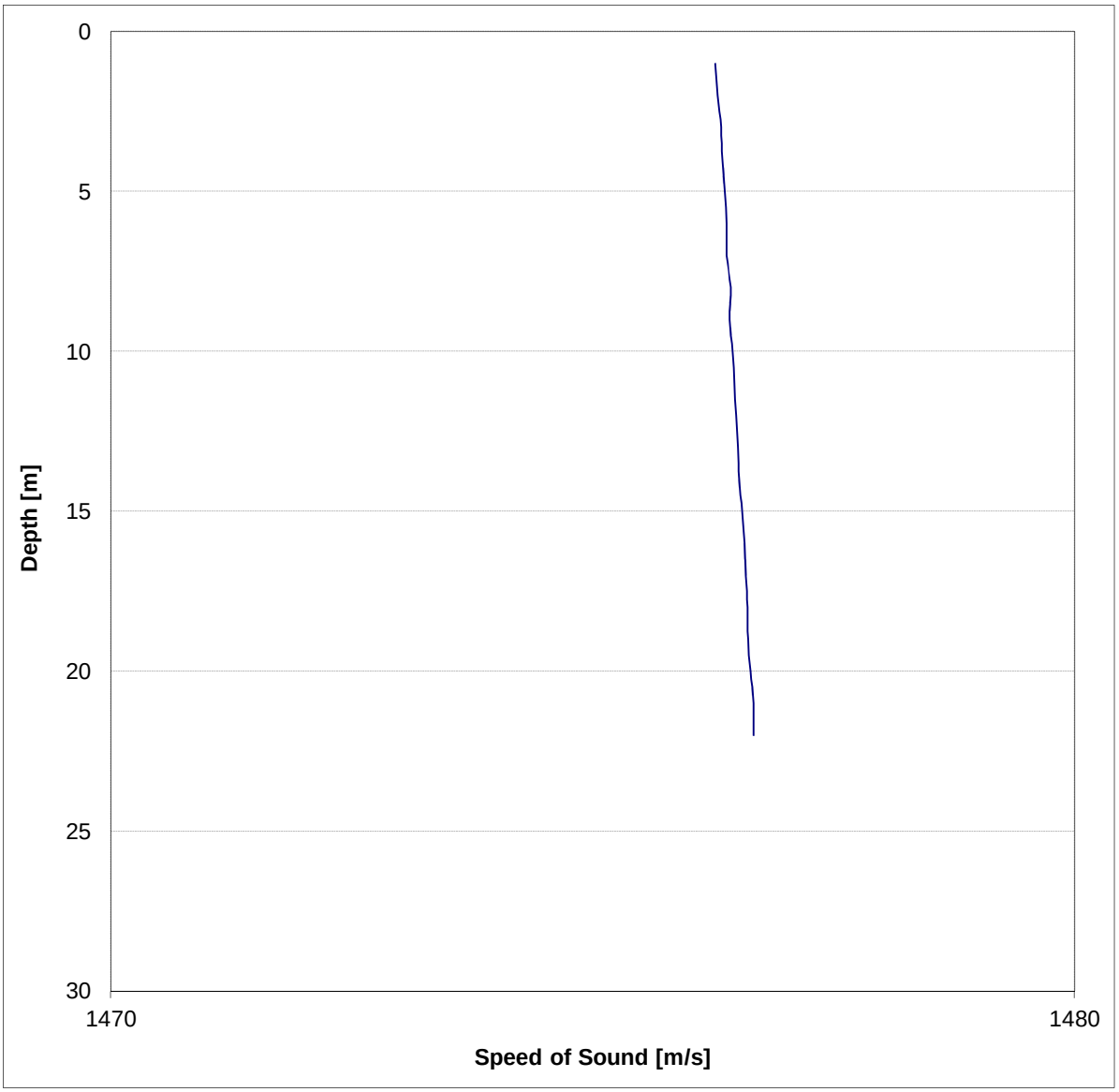
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	09:30 25/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	22.99 m
Easting:	575470 m	Transducer speed of sound:	1476.31 m/s
Northing:	5808551 m	Bottom speed of sound:	1476.36 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1476.48 m/s
Sensor type and S/N:	SD1165	Average density:	1025.89 kg/m^3



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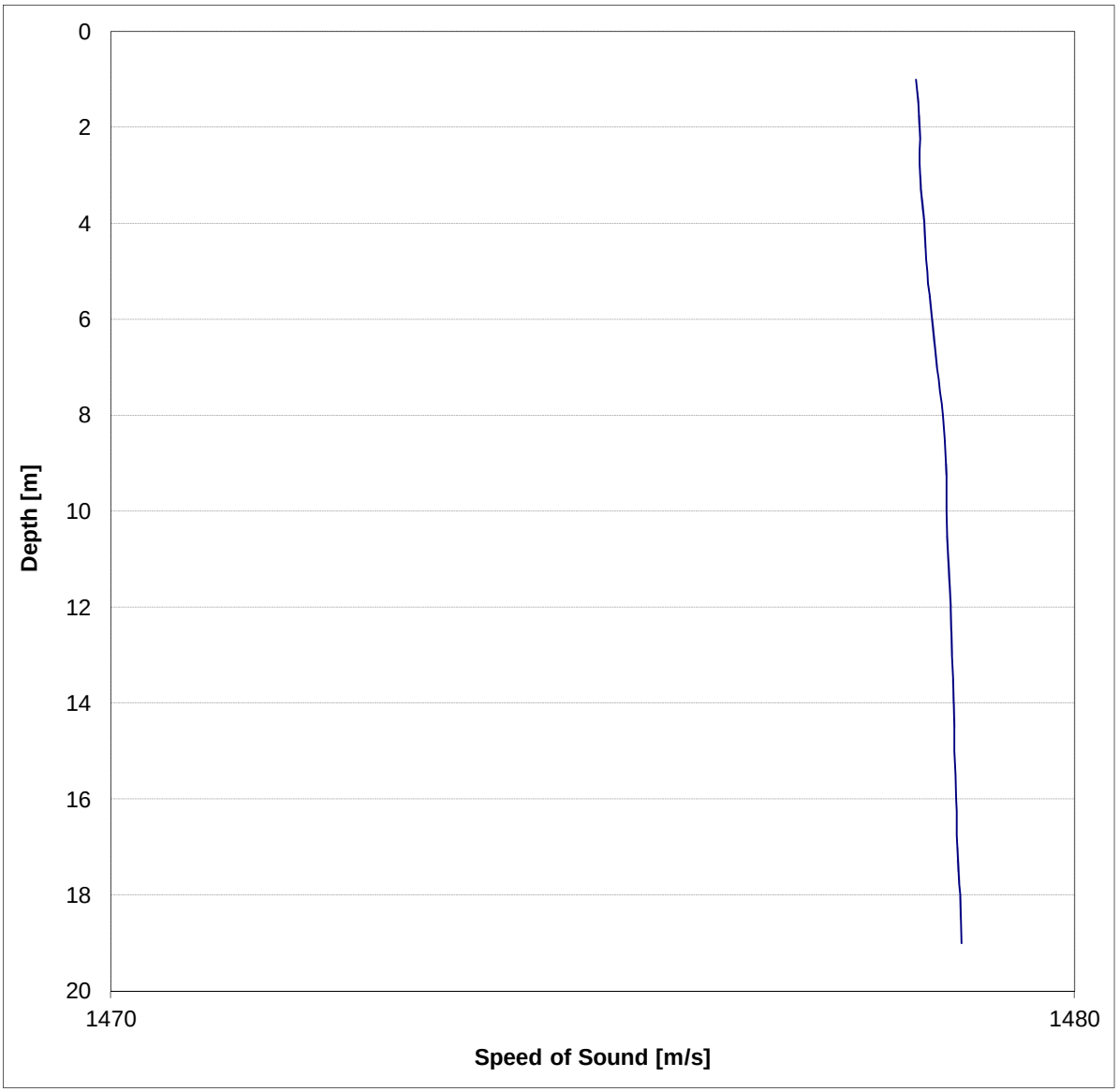
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	16:21 25/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	19.15 m
Easting:	566814 m	Transducer speed of sound:	1478.43 m/s
Northing:	5791502 m	Bottom speed of sound:	1478.86 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.63 m/s
Sensor type and S/N:	SD1165	Average density:	1026.43 kg/m^3



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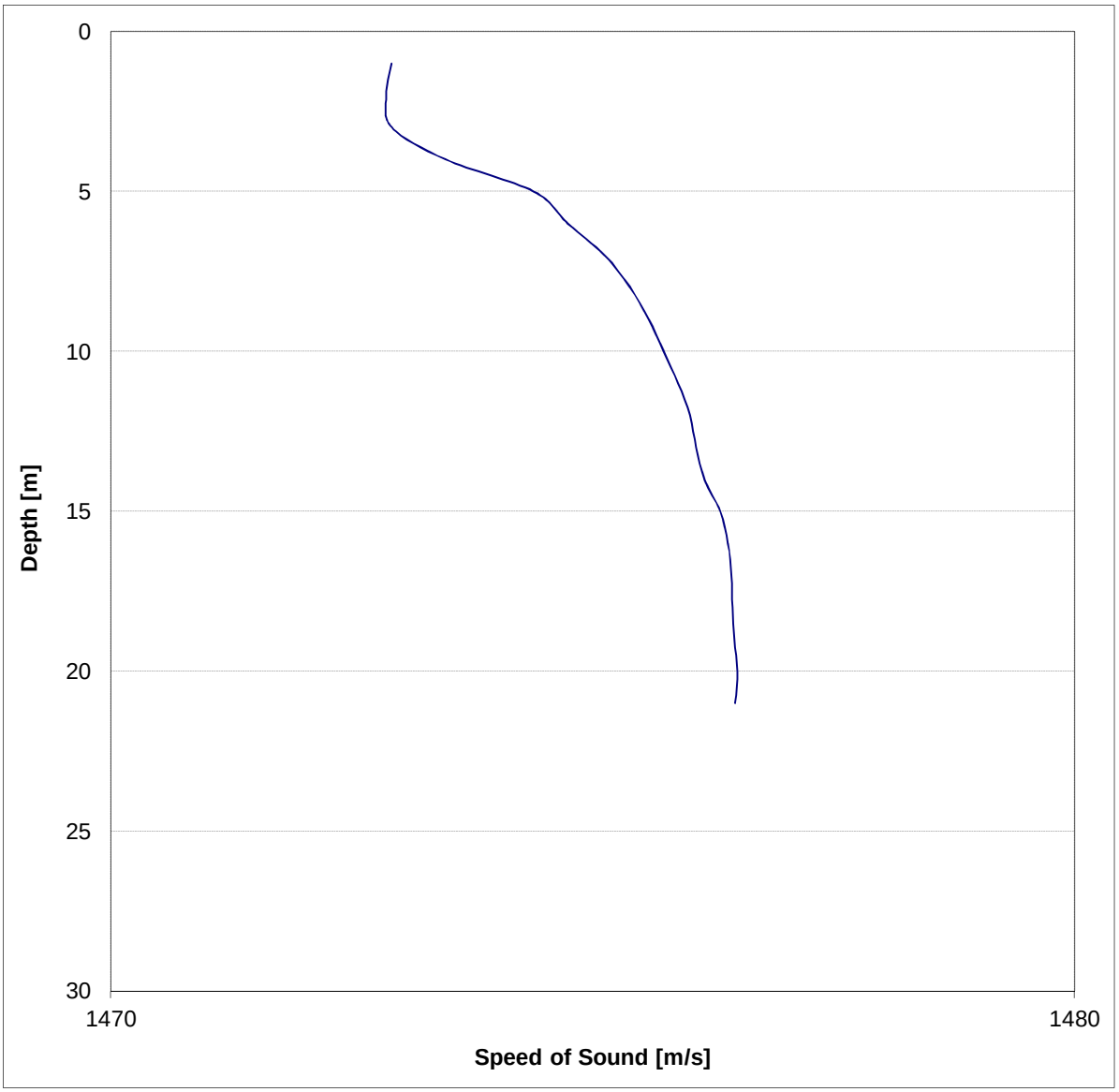
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	02:58 26/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.15 m
Easting:	576627 m	Transducer speed of sound:	1473.00 m/s
Northing:	5790680 m	Bottom speed of sound:	1476.37 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1475.35 m/s
Sensor type and S/N:	SD1165	Average density:	1025.11 kg/m^3



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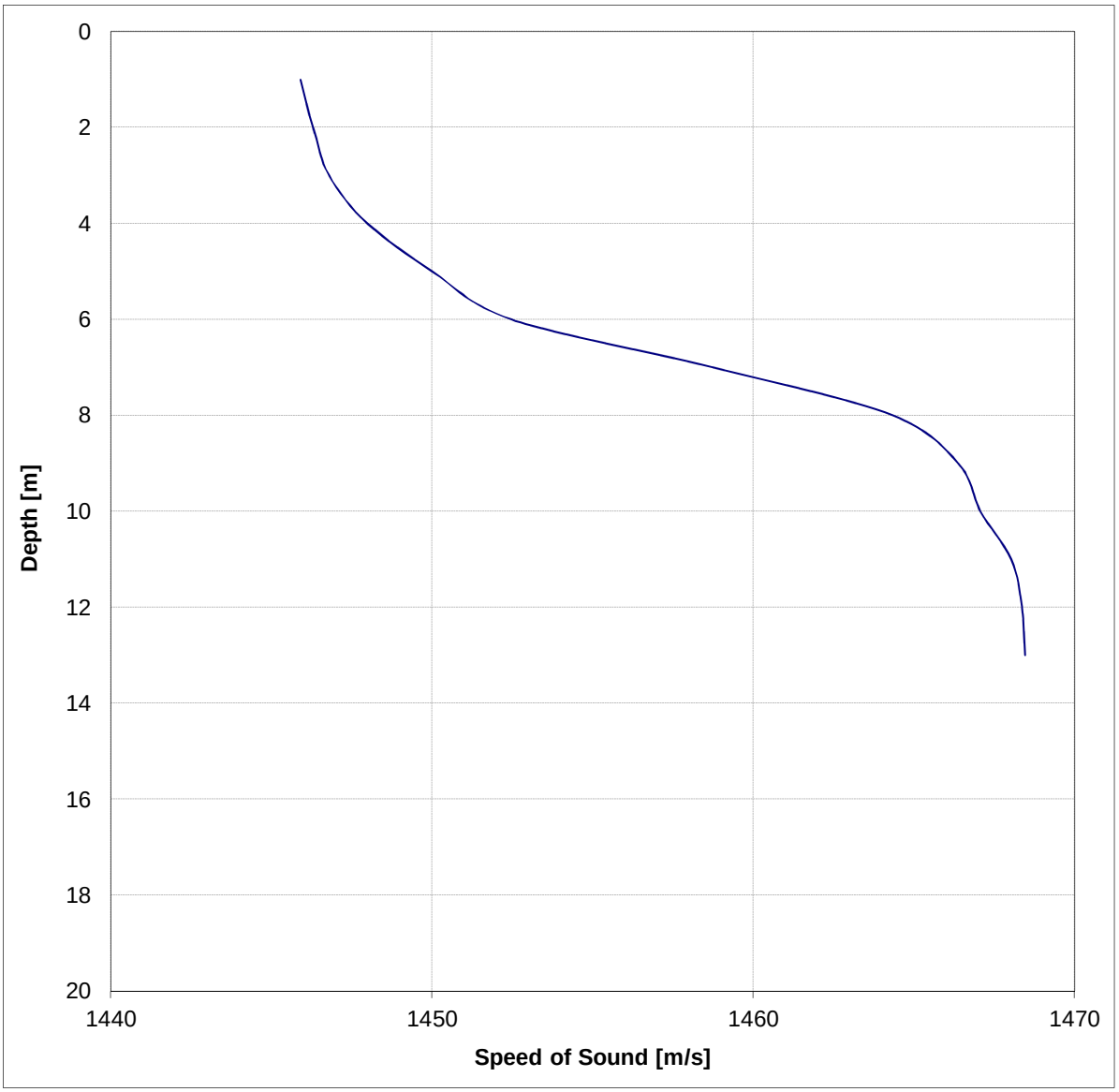
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	08:09 26/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	13.90 m
Easting:	578756 m	Transducer speed of sound:	1447.18 m/s
Northing:	5757518 m	Bottom speed of sound:	1468.55 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1457.69 m/s
Sensor type and S/N:	SD1165	Average density:	1012.81 kg/m^3



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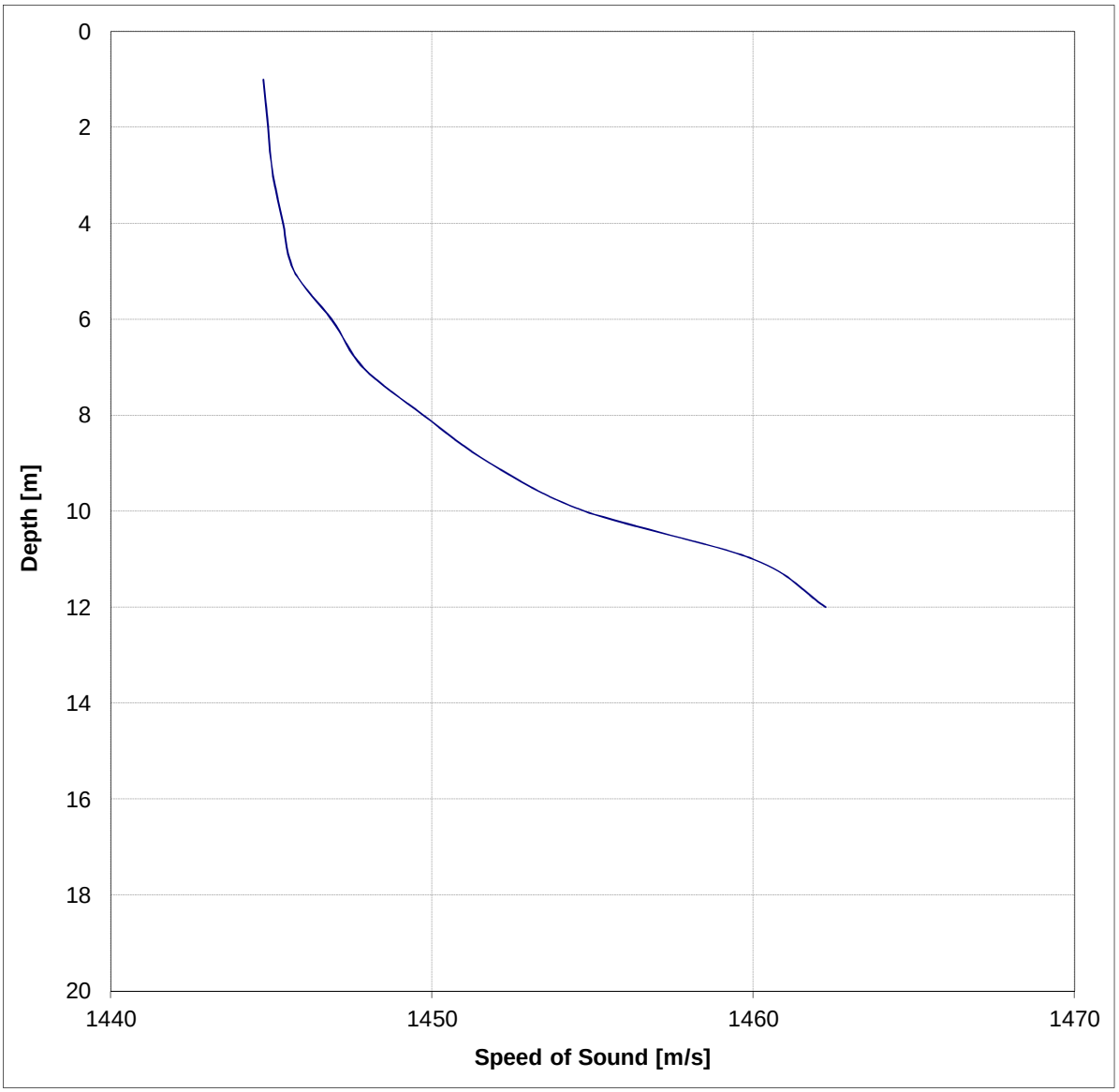
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	08:49 26/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	12.97 m
Easting:	580282 m	Transducer speed of sound:	1445.20 m/s
Northing:	5756261 m	Bottom speed of sound:	1462.63 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1449.90 m/s
Sensor type and S/N:	SD1165	Average density:	1007.31 kg/m^3



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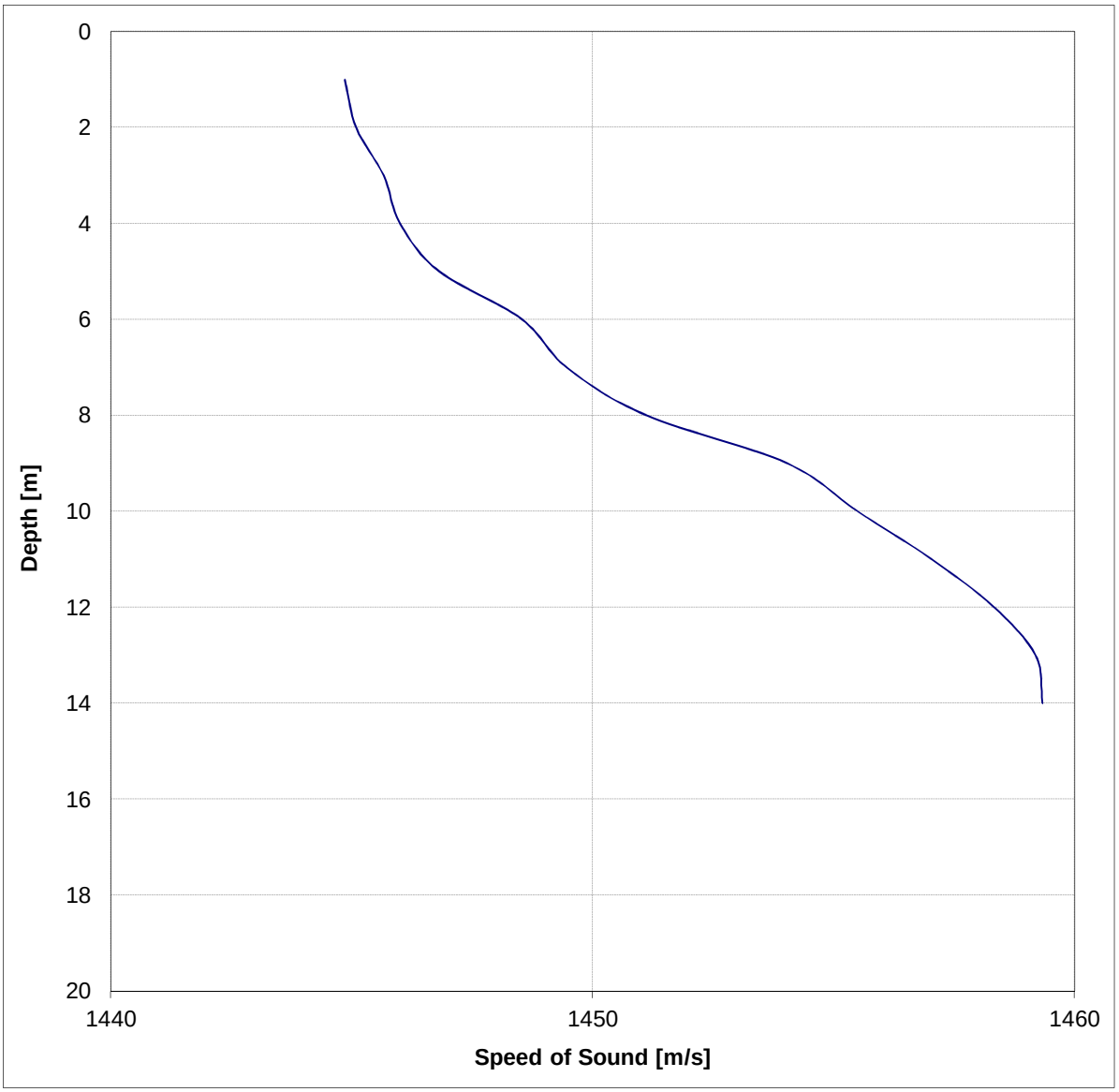
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	09:37 26/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	14.01 m
Easting:	579144 m	Transducer speed of sound:	1445.73 m/s
Northing:	5757200 m	Bottom speed of sound:	1459.34 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1451.47 m/s
Sensor type and S/N:	SD1165	Average density:	1008.29 kg/m^3



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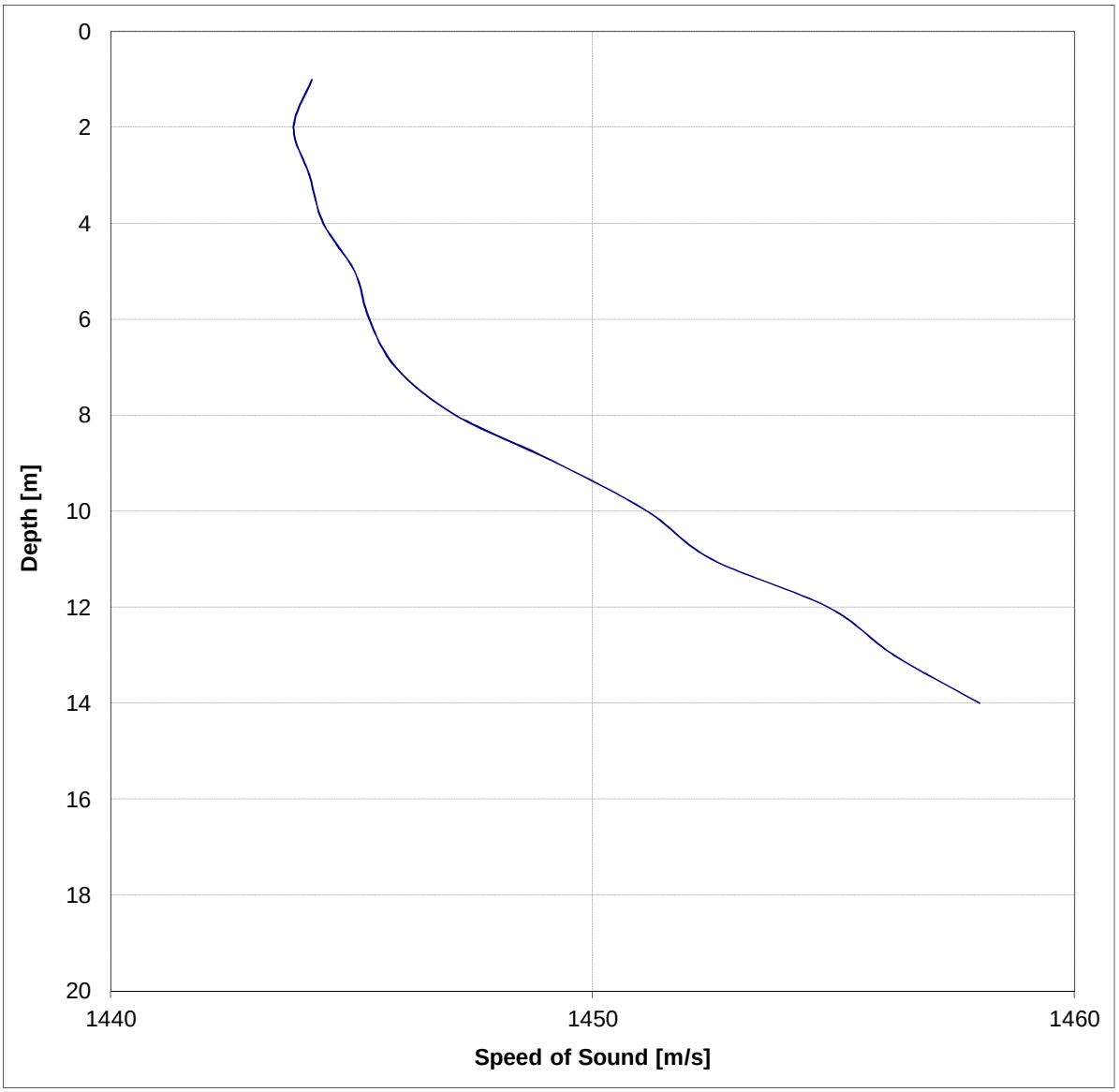
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	10:30 26/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	14.45 m
Easting:	579200 m	Transducer speed of sound:	1444.21 m/s
Northing:	5757238 m	Bottom speed of sound:	1458.49 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1448.70 m/s
Sensor type and S/N:	SD1165	Average density:	1006.24 kg/m^3



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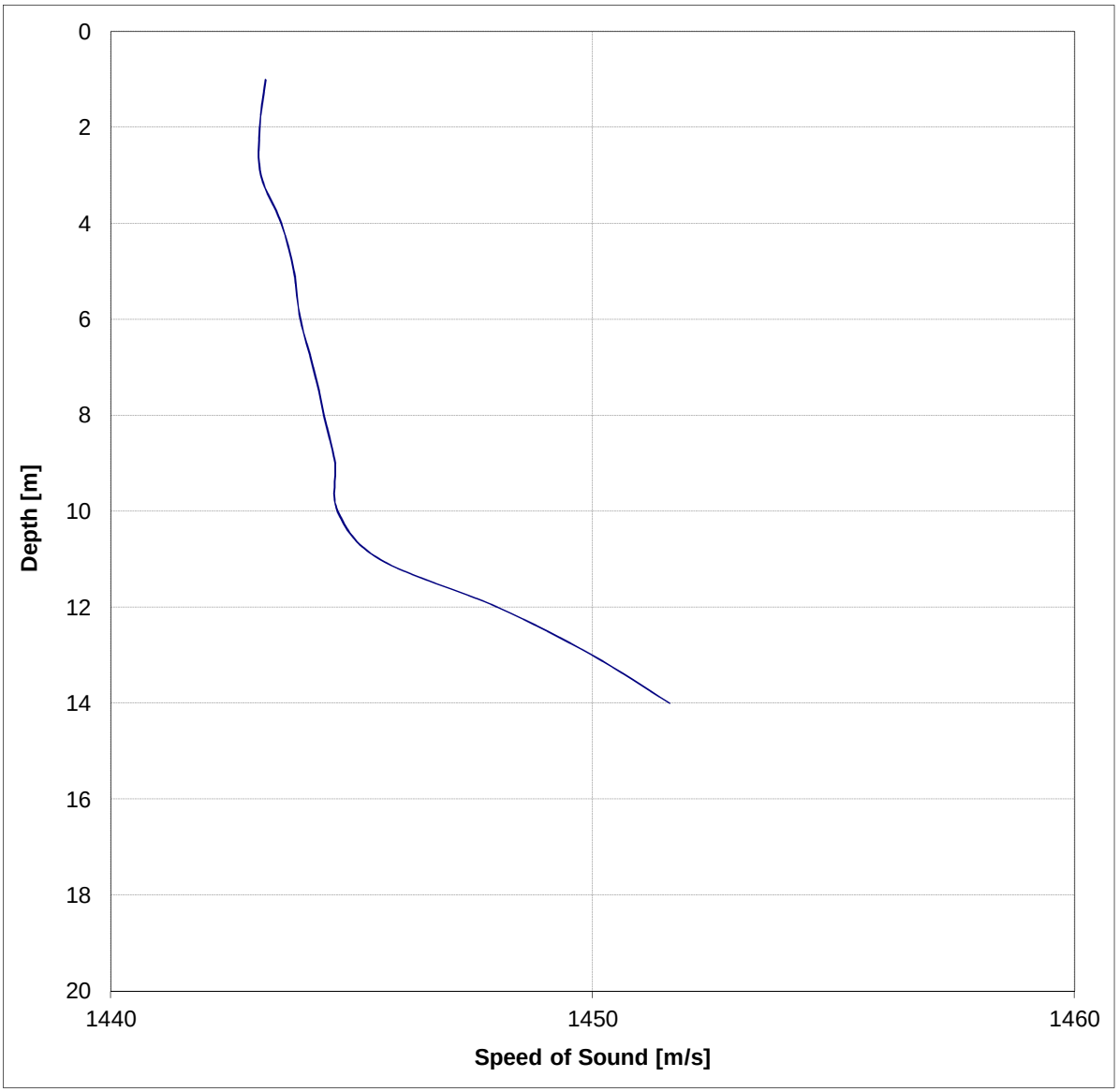
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	10:54 26/Mar/2016
Client:	RVO	Transducer depth:	3.42 m
Survey area:	North Sea	Water depth:	14.06 m
Easting:	580113 m	Transducer speed of sound:	1443.28 m/s
Northing:	5756368 m	Bottom speed of sound:	1451.56 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1445.27 m/s
Sensor type and S/N:	SD1165	Average density:	1003.77 kg/m^3



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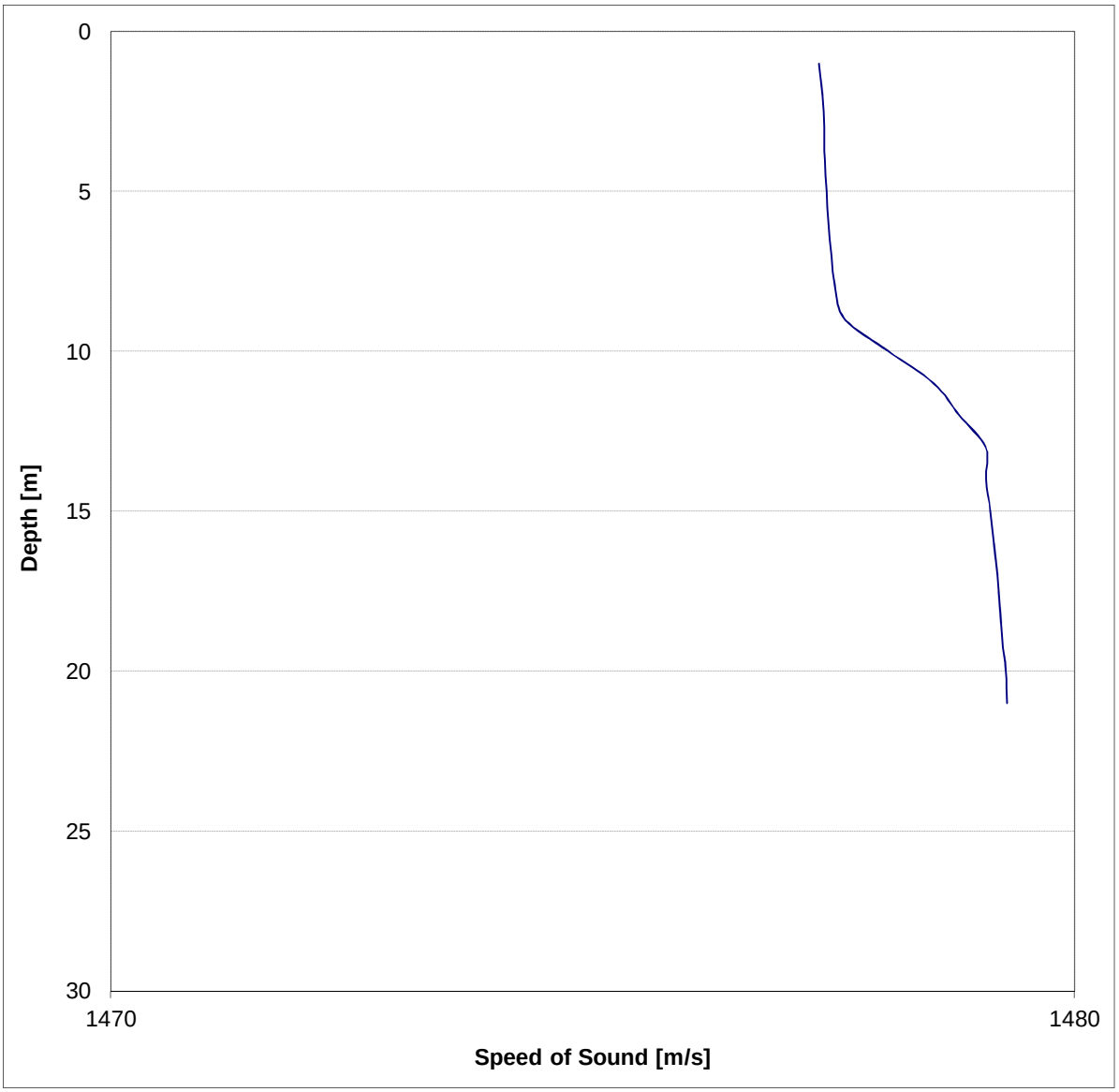
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	05:18 30/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.88 m
Easting:	566146 m	Transducer speed of sound:	1477.41 m/s
Northing:	5785721 m	Bottom speed of sound:	1479.35 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.34 m/s
Sensor type and S/N:	SD1165	Average density:	1025.60 kg/m^3



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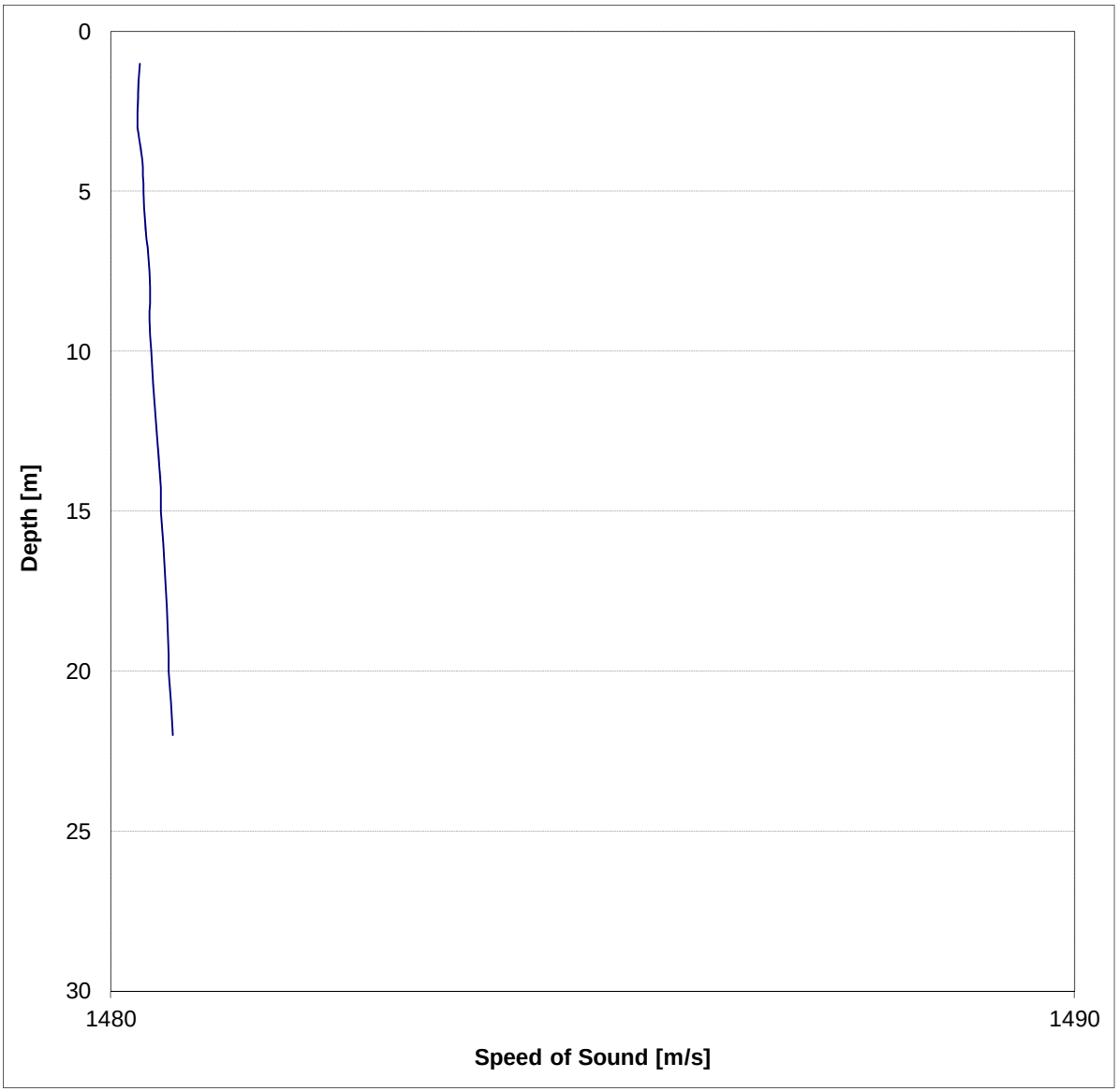
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	09:38 30/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	22.82 m
Easting:	569962 m	Transducer speed of sound:	1480.27 m/s
Northing:	5799542 m	Bottom speed of sound:	1480.65 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.46 m/s
Sensor type and S/N:	SD1165	Average density:	1026.69 kg/m^3



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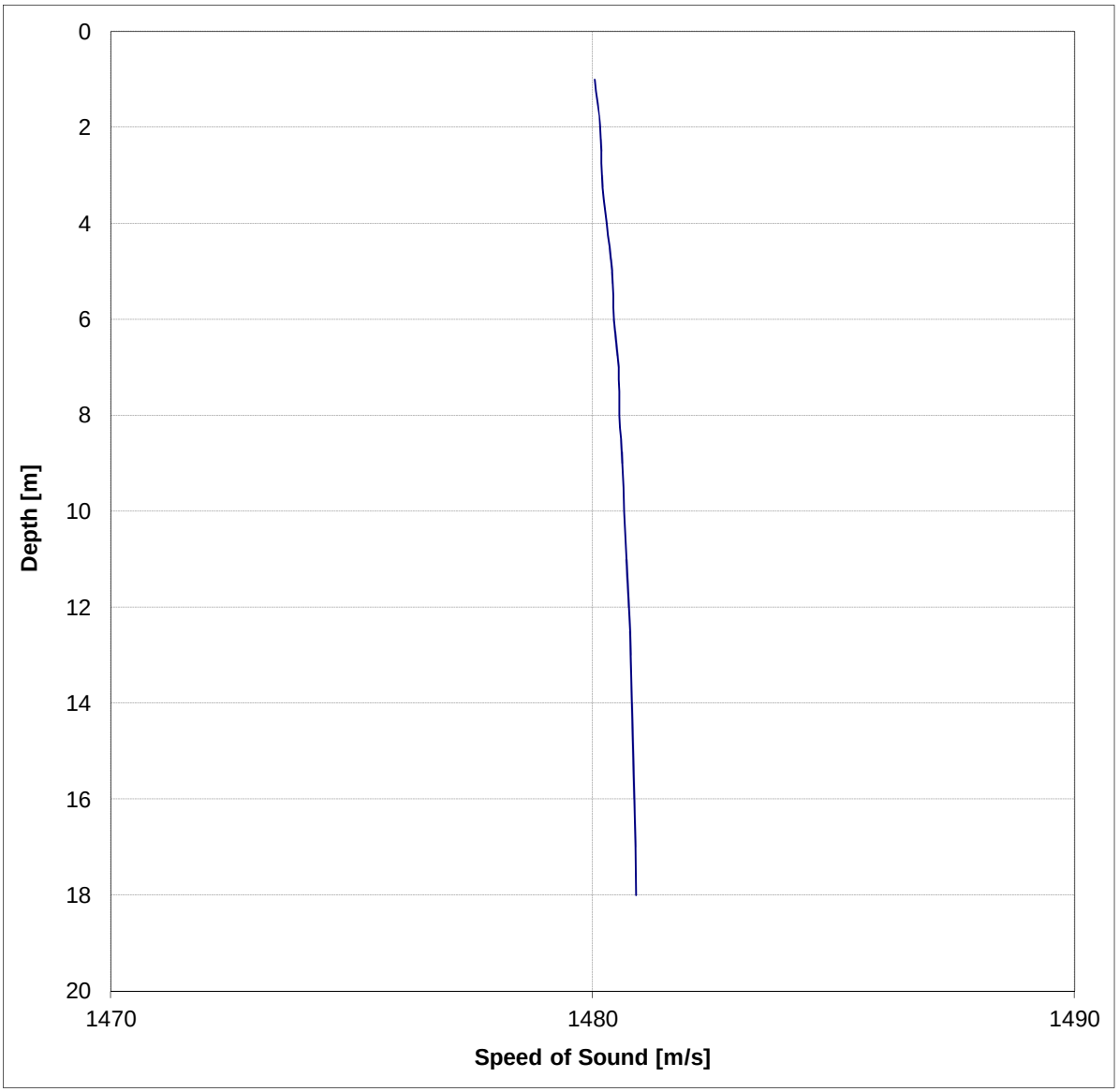
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	20:07 30/Mar/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	18.70 m
Easting:	572346 m	Transducer speed of sound:	1480.18 m/s
Northing:	5797473 m	Bottom speed of sound:	1480.92 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.58 m/s
Sensor type and S/N:	SD1165	Average density:	1026.50 kg/m^3



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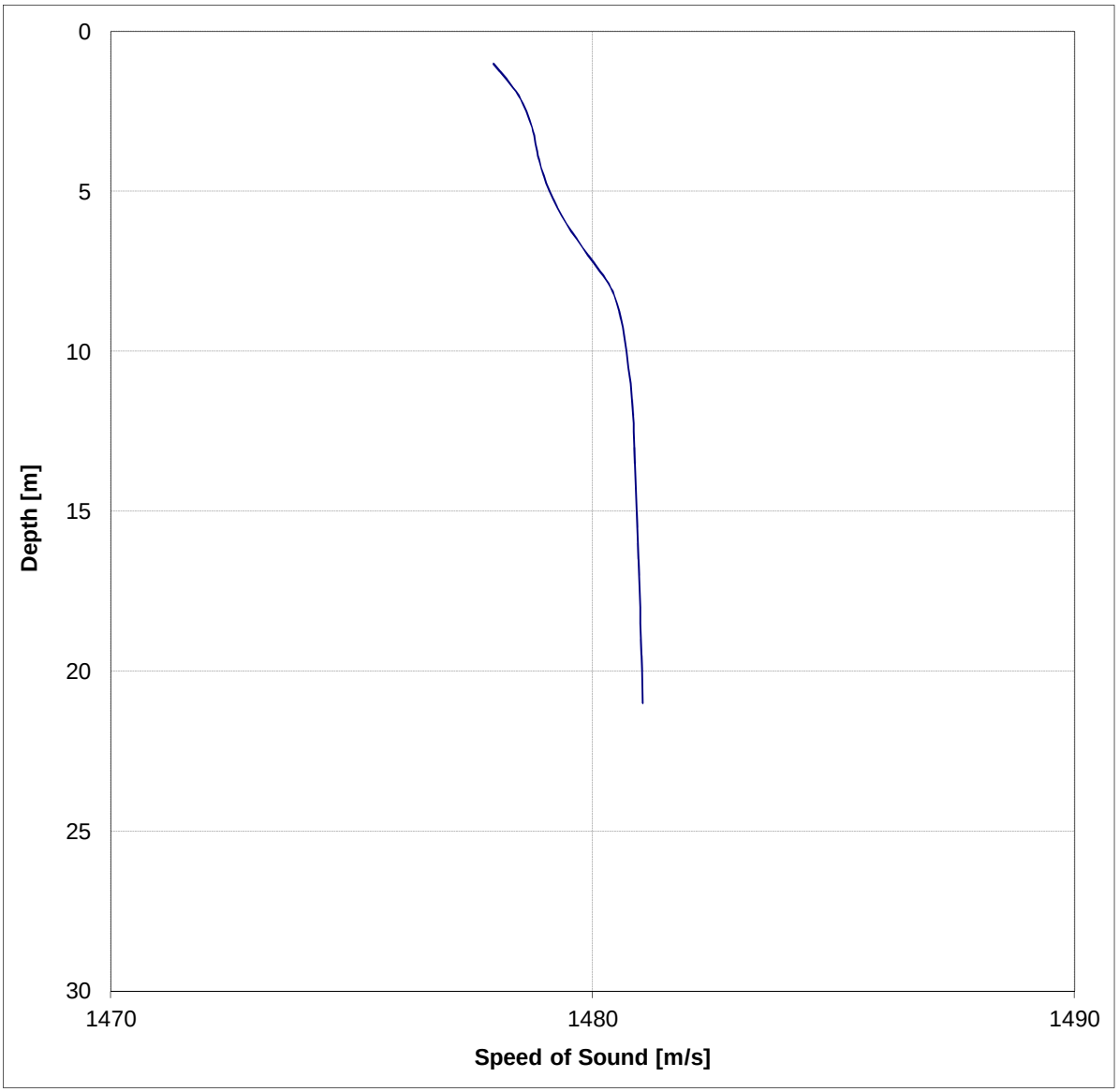
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	04:49 31/Mar/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	21.81 m
Easting:	571379 m	Transducer speed of sound:	1478.77 m/s
Northing:	5793124 m	Bottom speed of sound:	1481.06 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.21 m/s
Sensor type and S/N:	SD1165	Average density:	1026.37 kg/m^3



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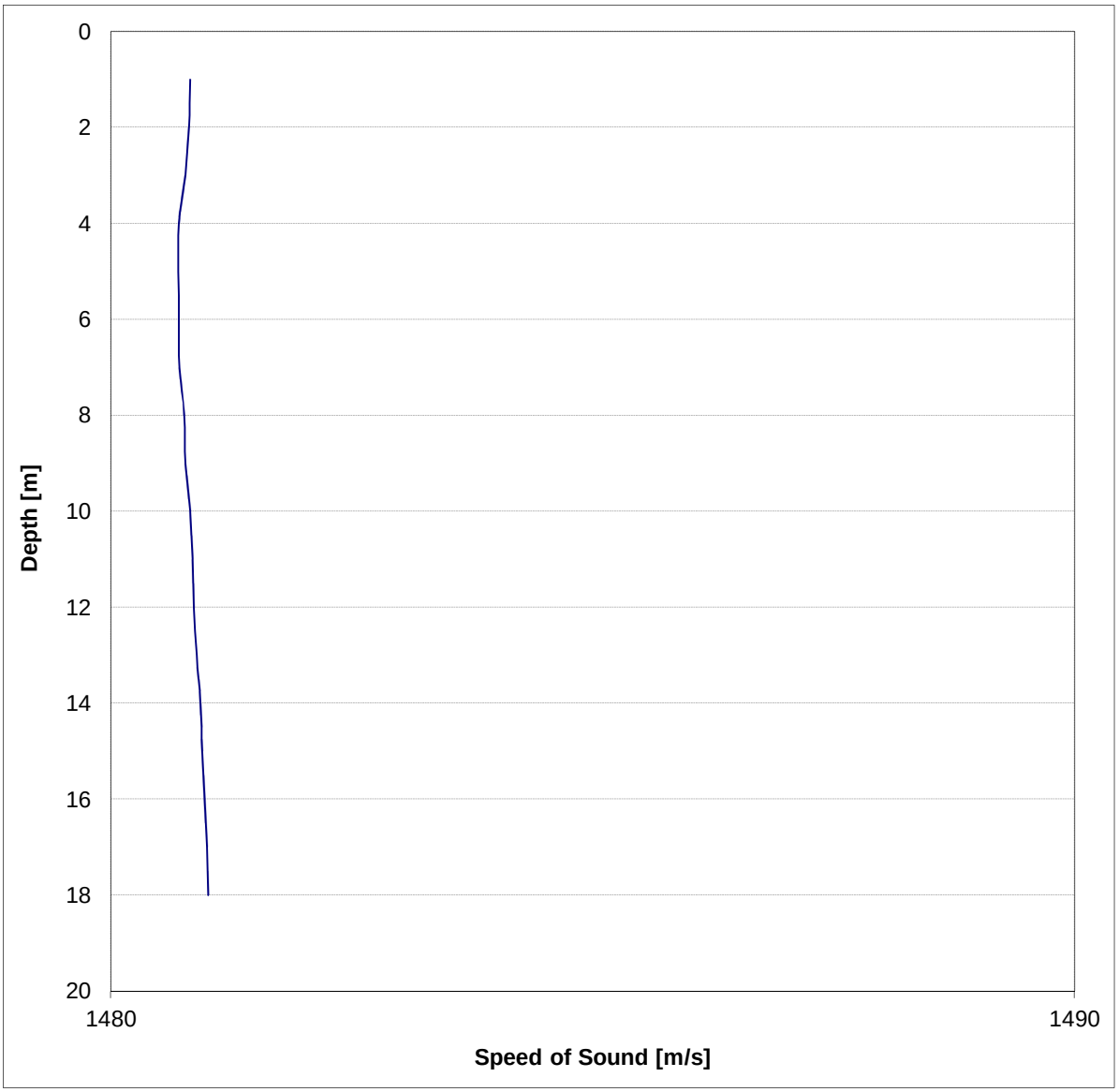
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	11:18 31/Mar/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	18.59 m
Easting:	572446 m	Transducer speed of sound:	1480.77 m/s
Northing:	5804205 m	Bottom speed of sound:	1480.99 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.83 m/s
Sensor type and S/N:	SD1165	Average density:	1026.62 kg/m^3



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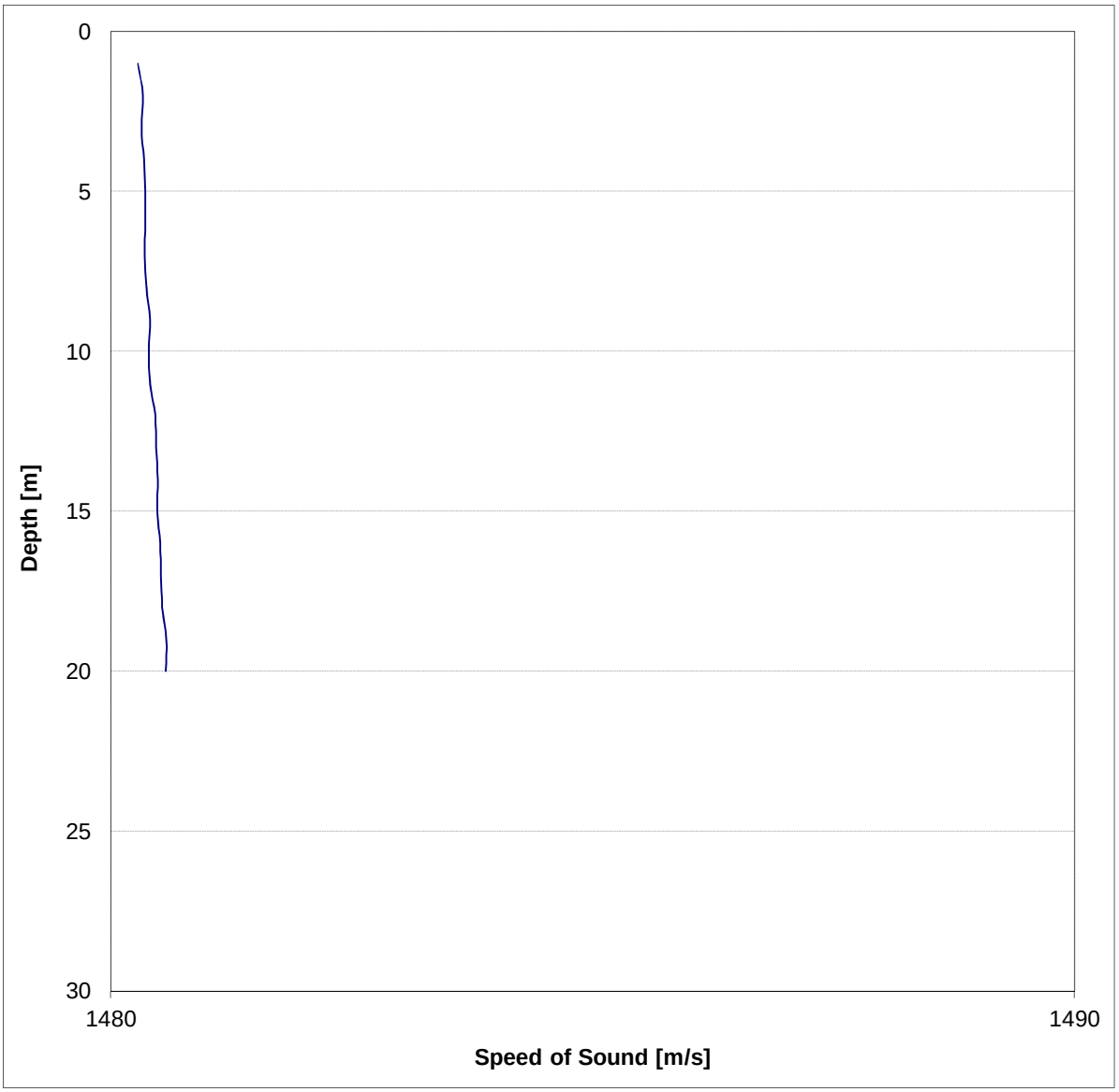
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	15:05 31/Mar/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	20.99 m
Easting:	567115 m	Transducer speed of sound:	1480.35 m/s
Northing:	5788103 m	Bottom speed of sound:	1480.63 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.42 m/s
Sensor type and S/N:	SD1165	Average density:	1026.30 kg/m^3



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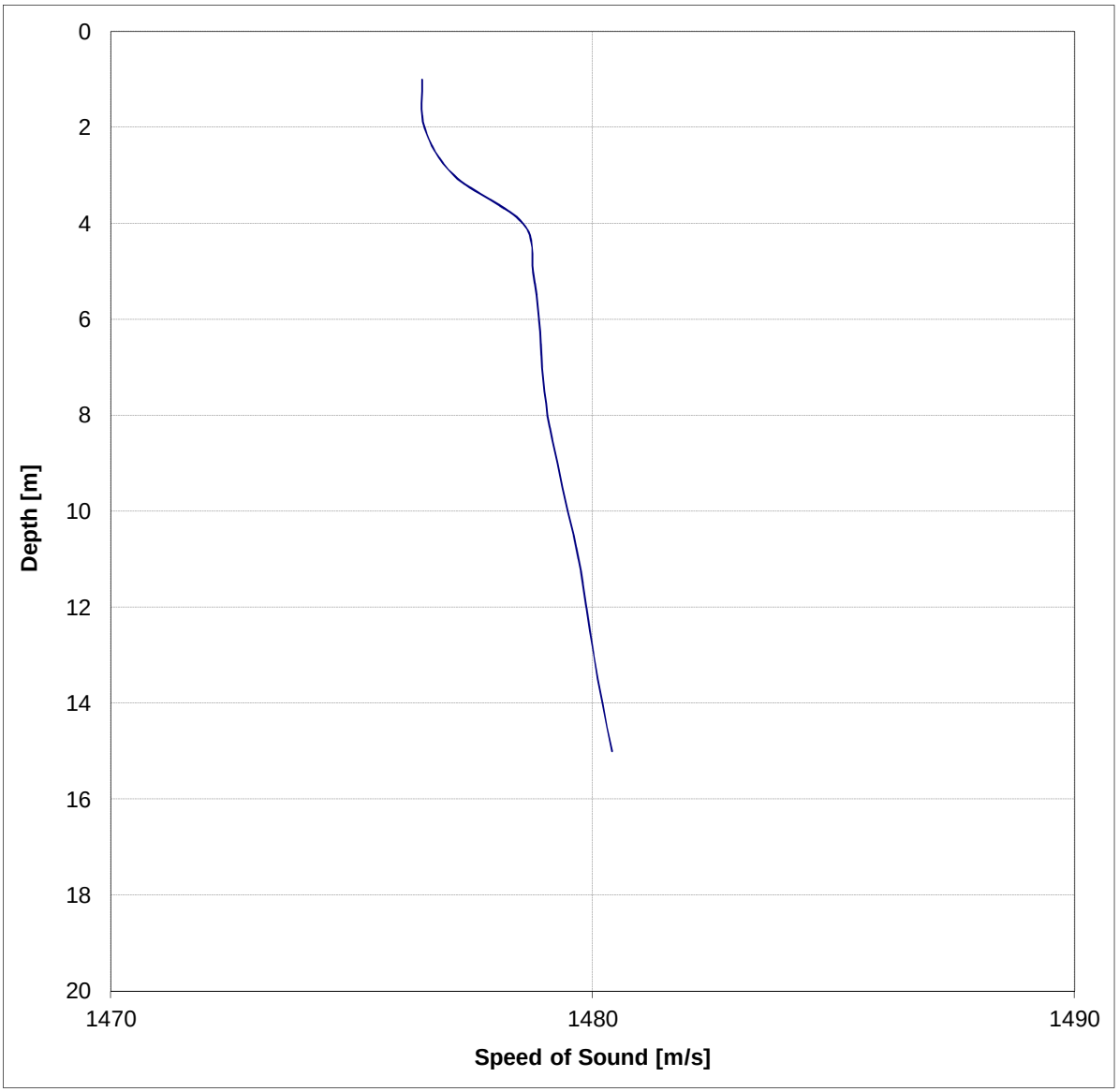
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	04:46 01/Apr/2016
Client:	RVO	Transducer depth:	3.50 m
Survey area:	North Sea	Water depth:	15.14 m
Easting:	573031 m	Transducer speed of sound:	1478.29 m/s
Northing:	5798442 m	Bottom speed of sound:	1480.40 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.88 m/s
Sensor type and S/N:	SD1165	Average density:	1025.47 kg/m^3



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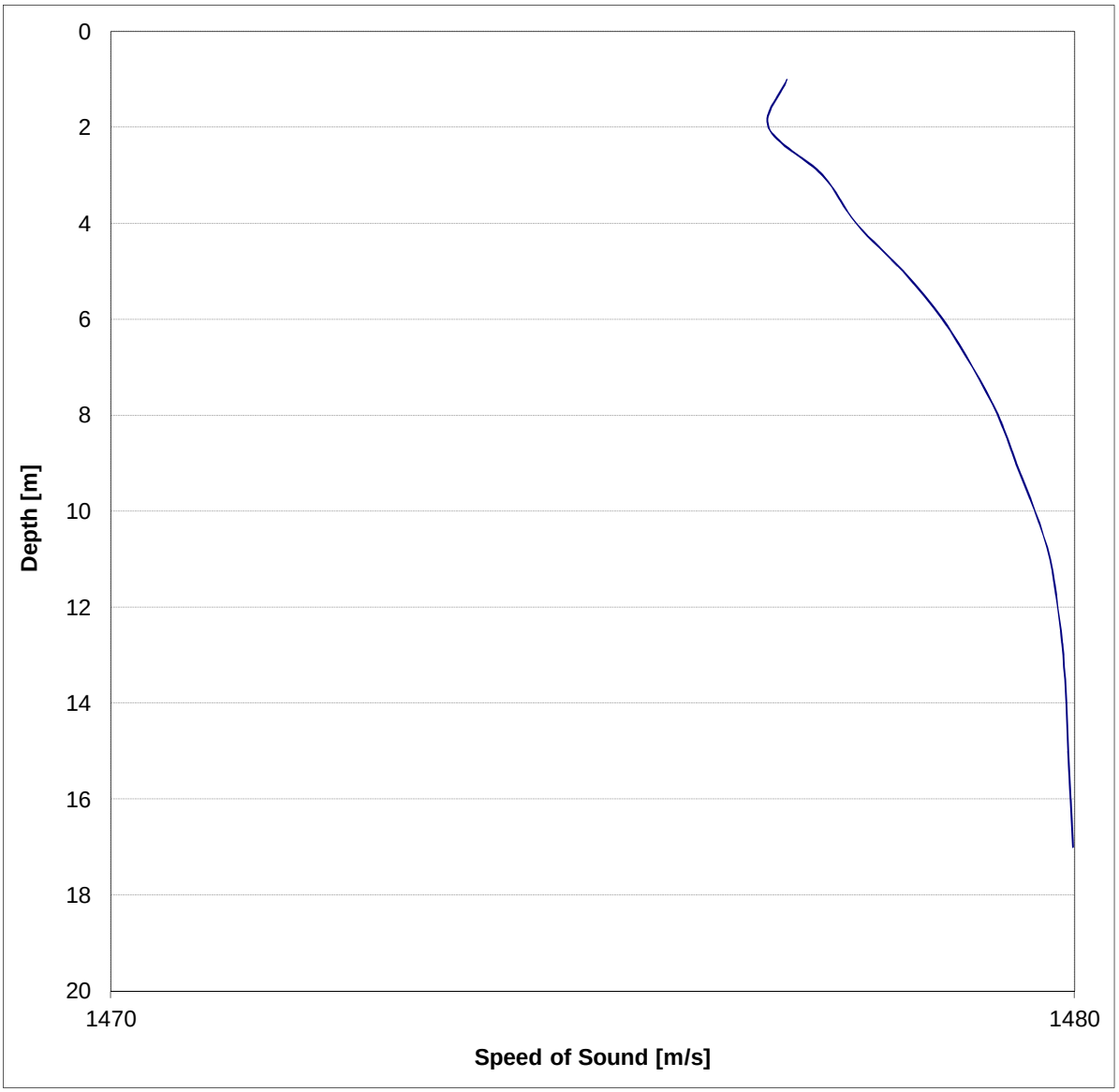
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	10:40 01/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	17.19 m
Easting:	575667 m	Transducer speed of sound:	1477.49 m/s
Northing:	5807462 m	Bottom speed of sound:	1479.97 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.95 m/s
Sensor type and S/N:	SD1165	Average density:	1025.52 kg/m^3



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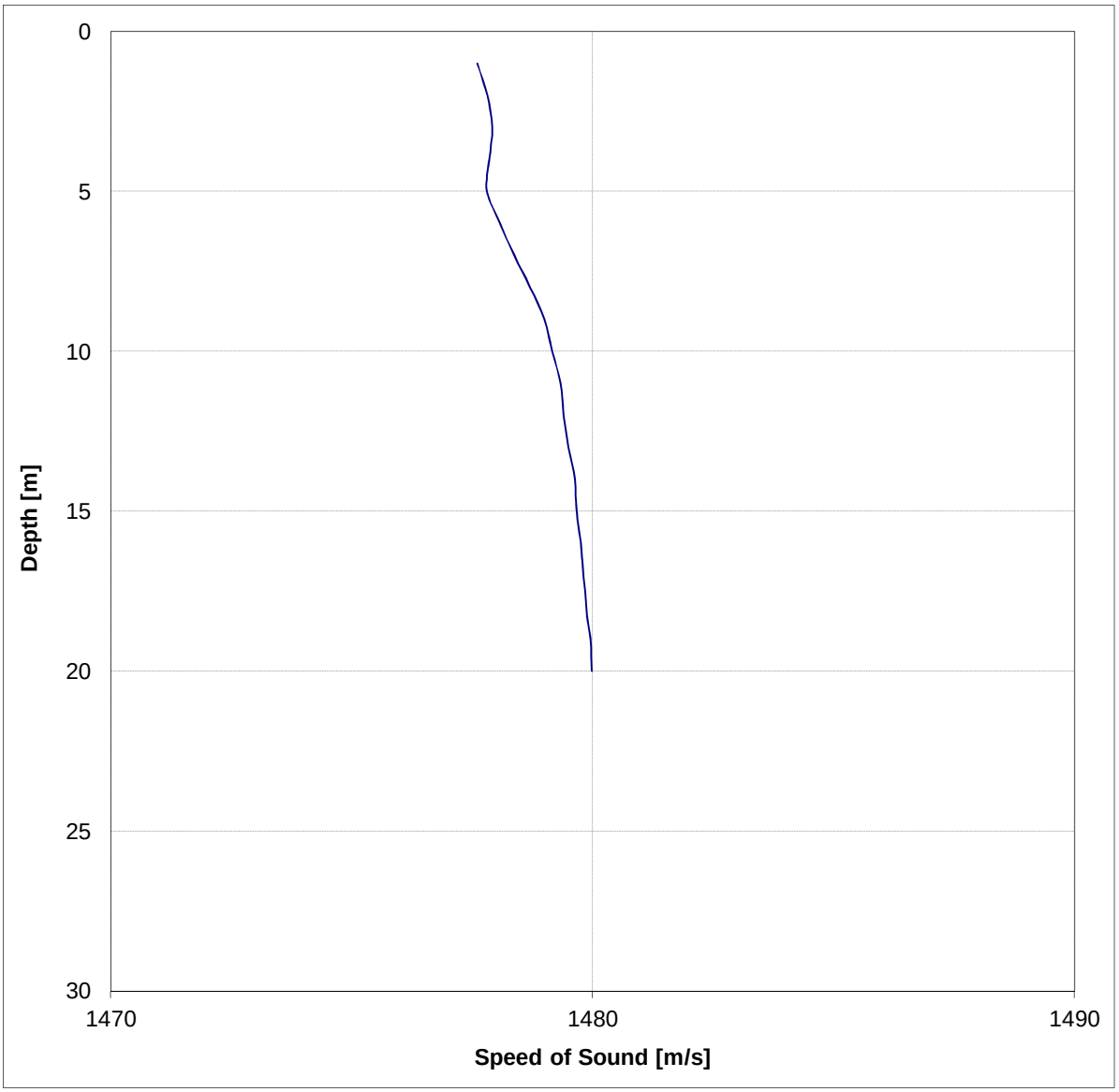
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	03:27 02/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	20.61 m
Easting:	576551 m	Transducer speed of sound:	1477.92 m/s
Northing:	5801638 m	Bottom speed of sound:	1480.02 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.96 m/s
Sensor type and S/N:	SD1165	Average density:	1025.26 kg/m^3



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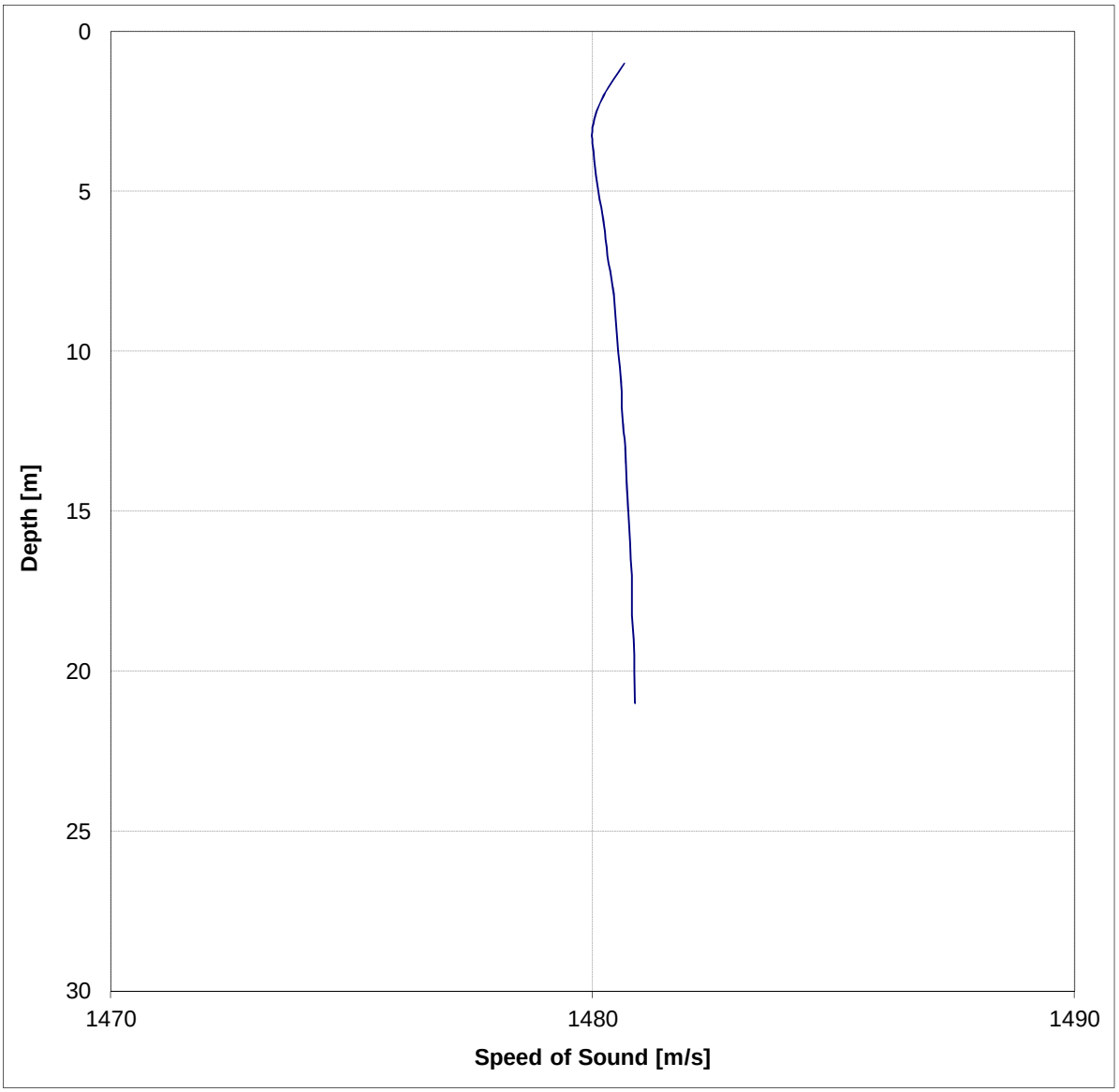
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	12:09 02/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	21.99 m
Easting:	571509 m	Transducer speed of sound:	1479.94 m/s
Northing:	5792431 m	Bottom speed of sound:	1480.92 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.53 m/s
Sensor type and S/N:	SD1165	Average density:	1026.09 kg/m^3



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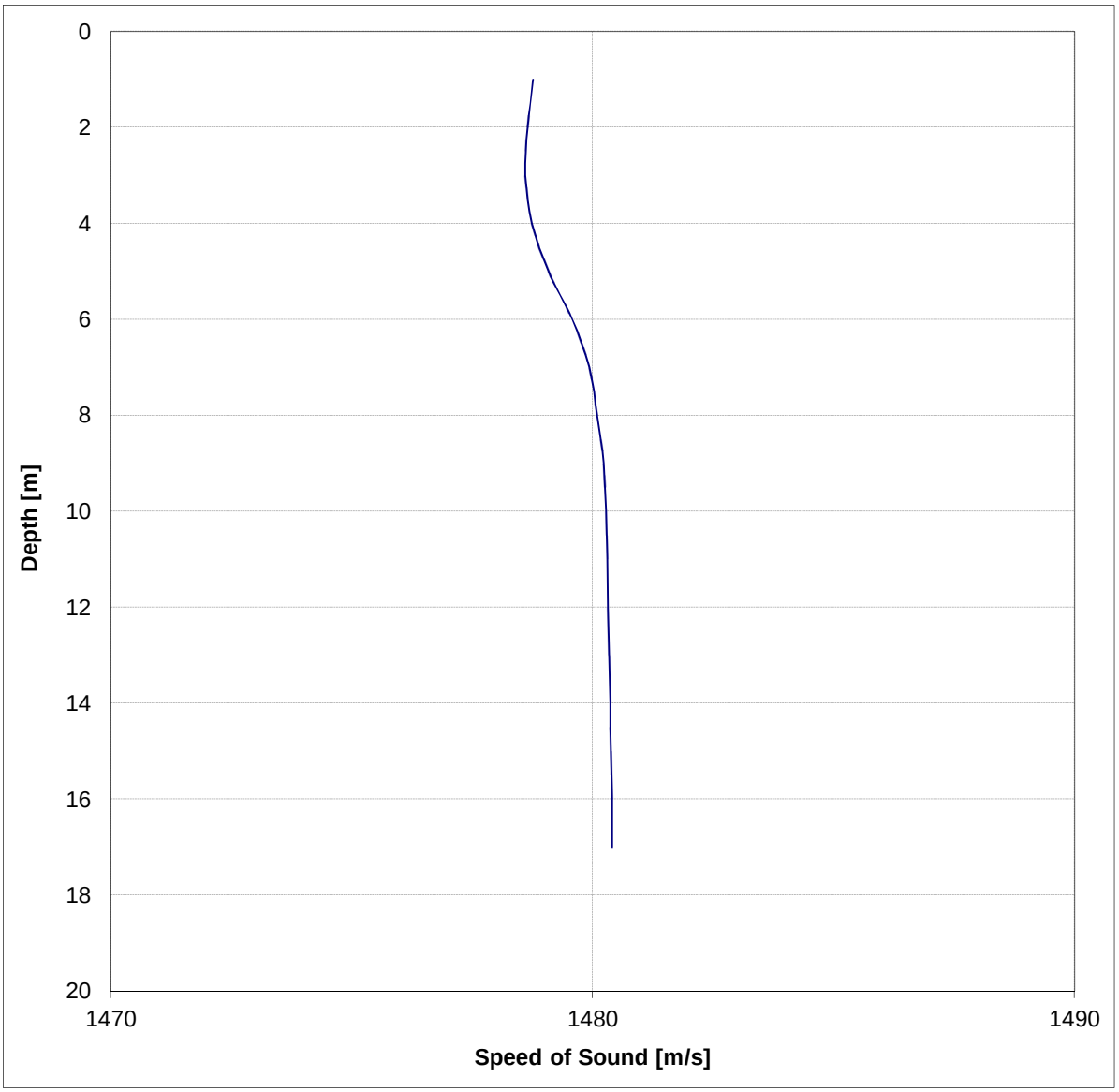
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	13:20 02/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	17.67 m
Easting:	568415 m	Transducer speed of sound:	1478.67 m/s
Northing:	5785953 m	Bottom speed of sound:	1480.41 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1479.79 m/s
Sensor type and S/N:	SD1165	Average density:	1025.62 kg/m^3



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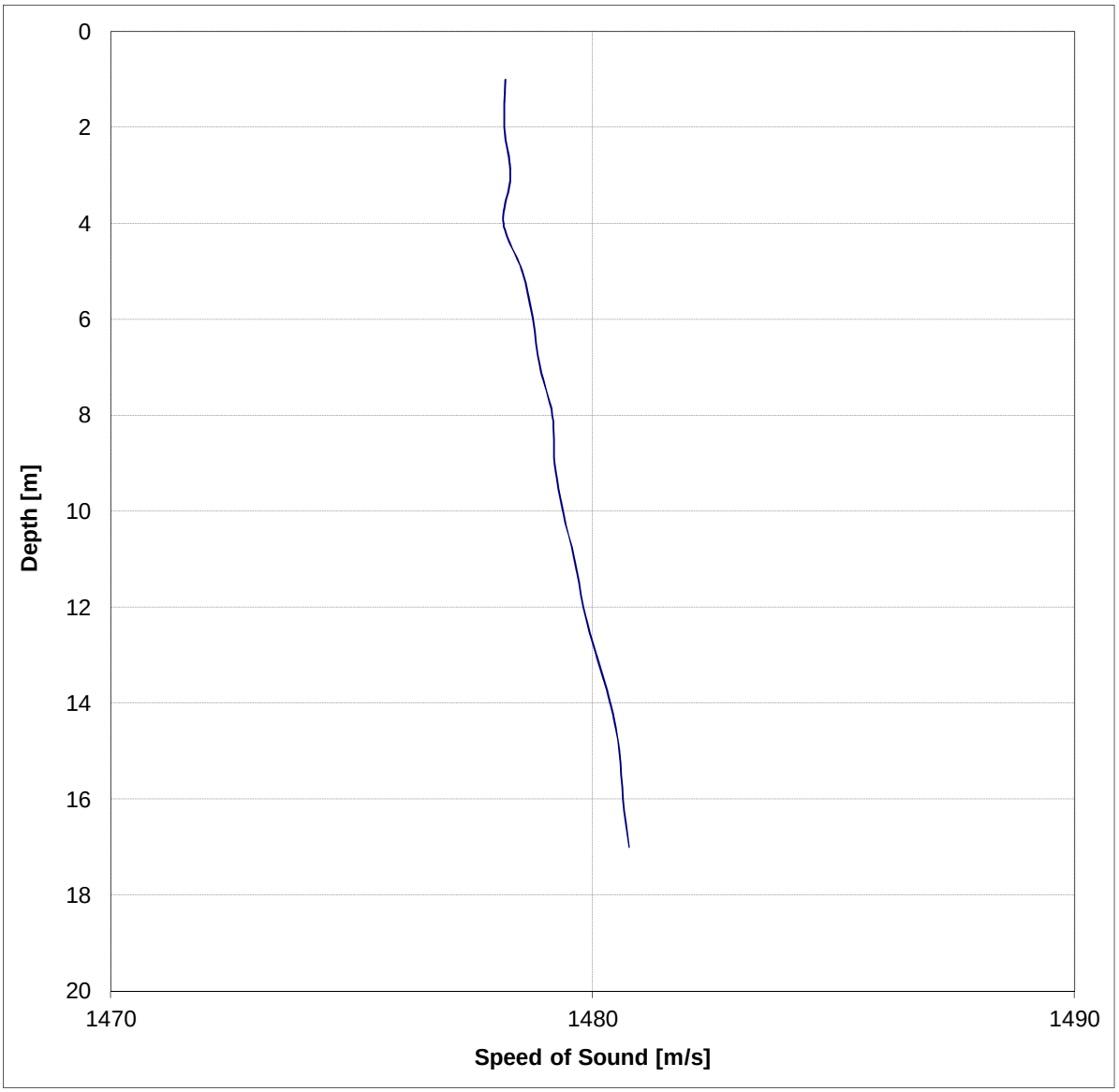
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	18:11 02/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	17.81 m
Easting:	575983 m	Transducer speed of sound:	1478.06 m/s
Northing:	5798368 m	Bottom speed of sound:	1480.84 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1479.32 m/s
Sensor type and S/N:	SD1165	Average density:	1025.27 kg/m^3



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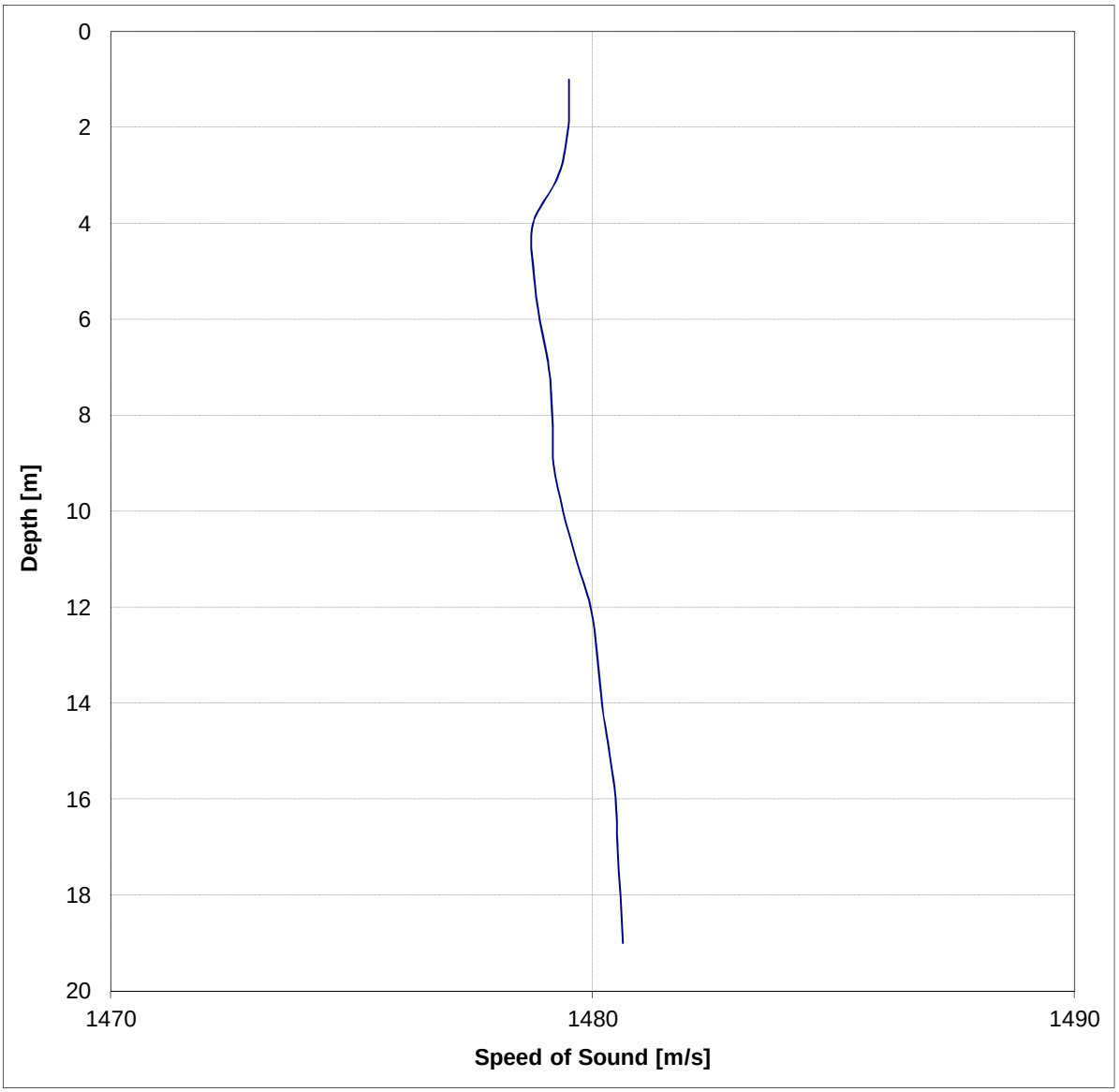
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	06:18 03/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	19.90 m
Easting:	577141 m	Transducer speed of sound:	1479.00 m/s
Northing:	5797927 m	Bottom speed of sound:	1480.61 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1479.68 m/s
Sensor type and S/N:	SD1165	Average density:	1025.55 kg/m^3



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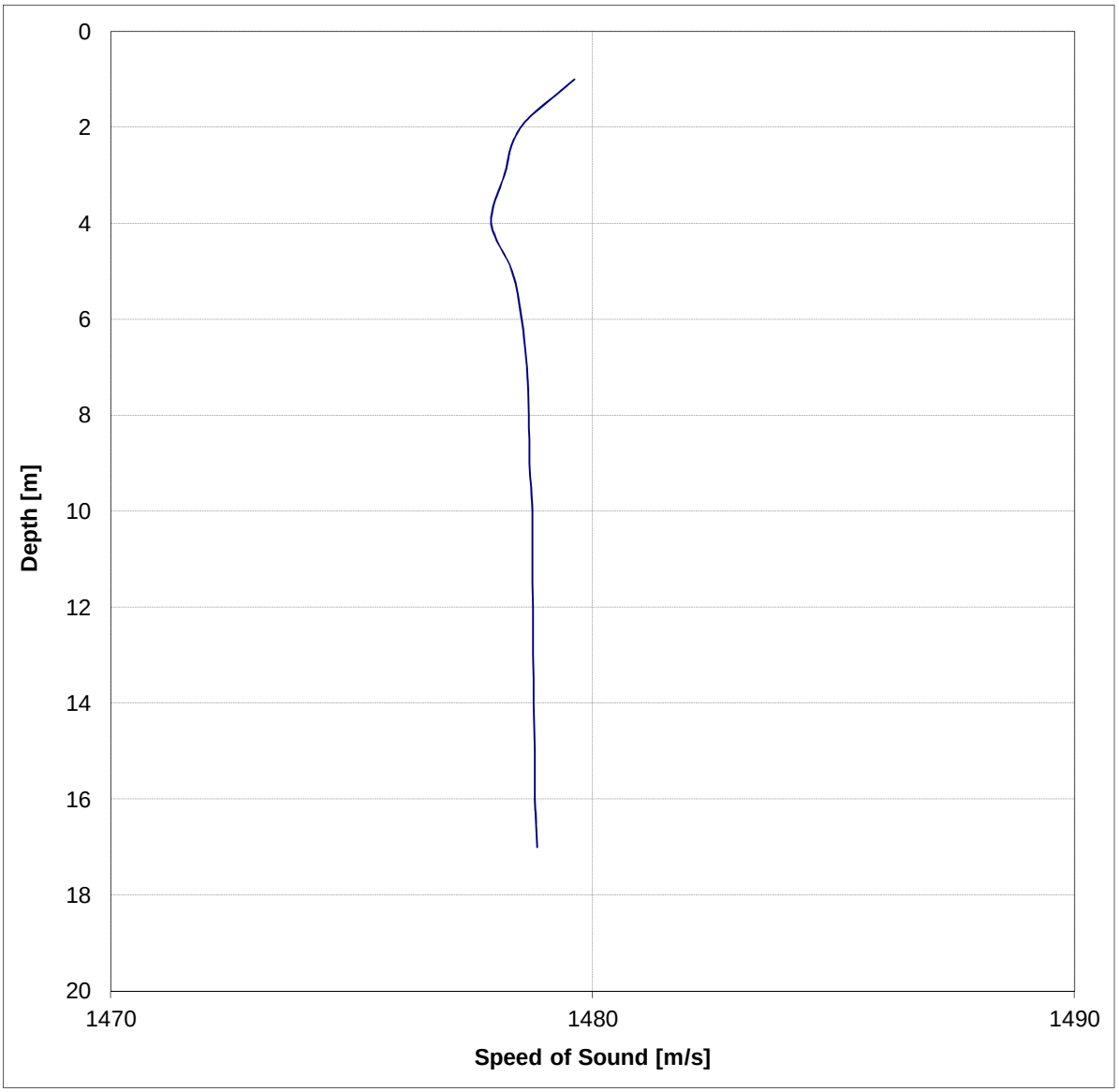
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	13:02 03/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	17.76 m
Easting:	581693 m	Transducer speed of sound:	1477.65 m/s
Northing:	5806139 m	Bottom speed of sound:	1478.85 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.66 m/s
Sensor type and S/N:	SD1165	Average density:	1024.69 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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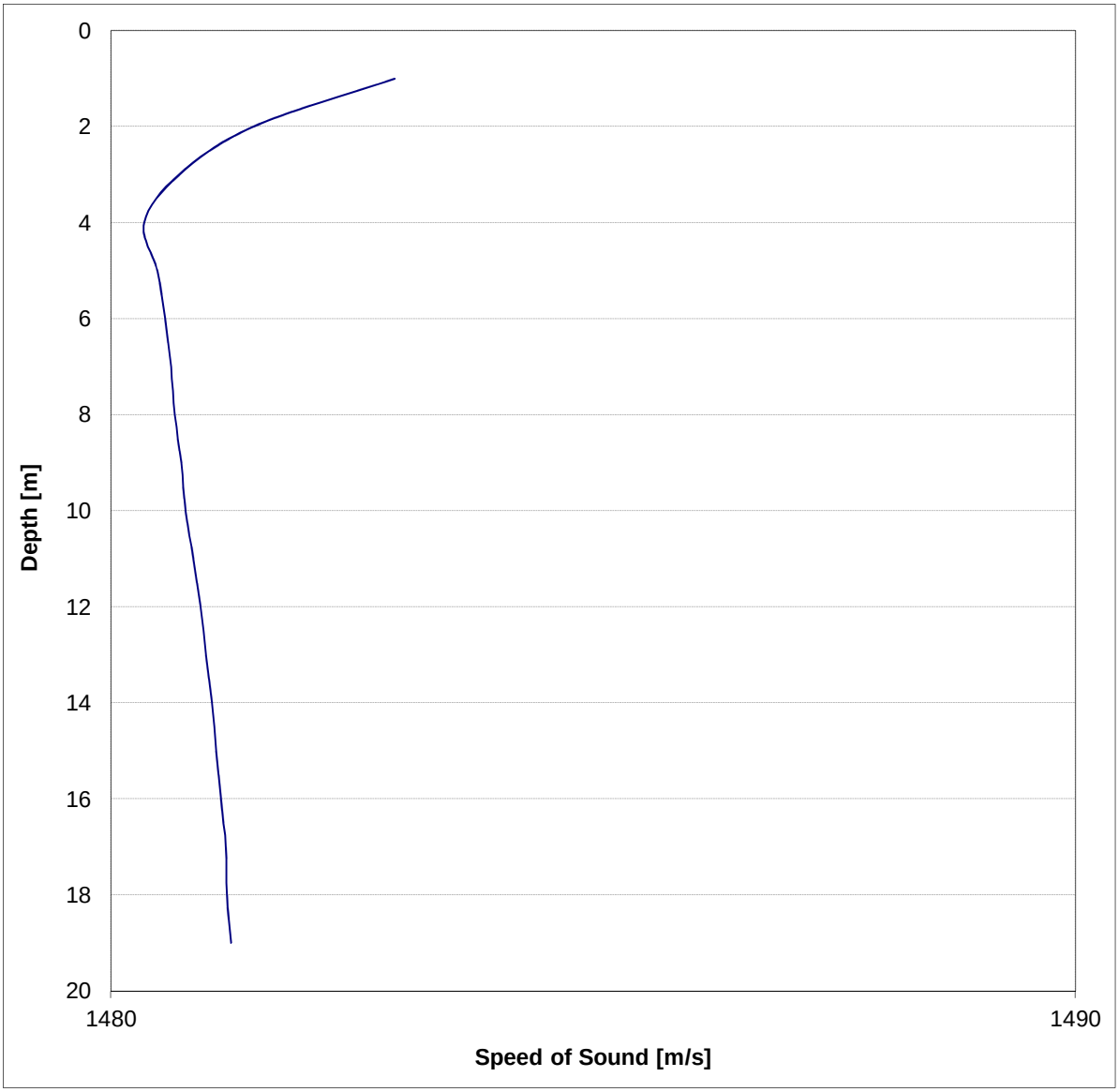
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	15:14 03/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	19.13 m
Easting:	575790 m	Transducer speed of sound:	1480.34 m/s
Northing:	5791761 m	Bottom speed of sound:	1481.22 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1481.00 m/s
Sensor type and S/N:	SD1165	Average density:	1025.86 kg/m^3



For Fugro Survey B.V. **For Client**

P. Miller

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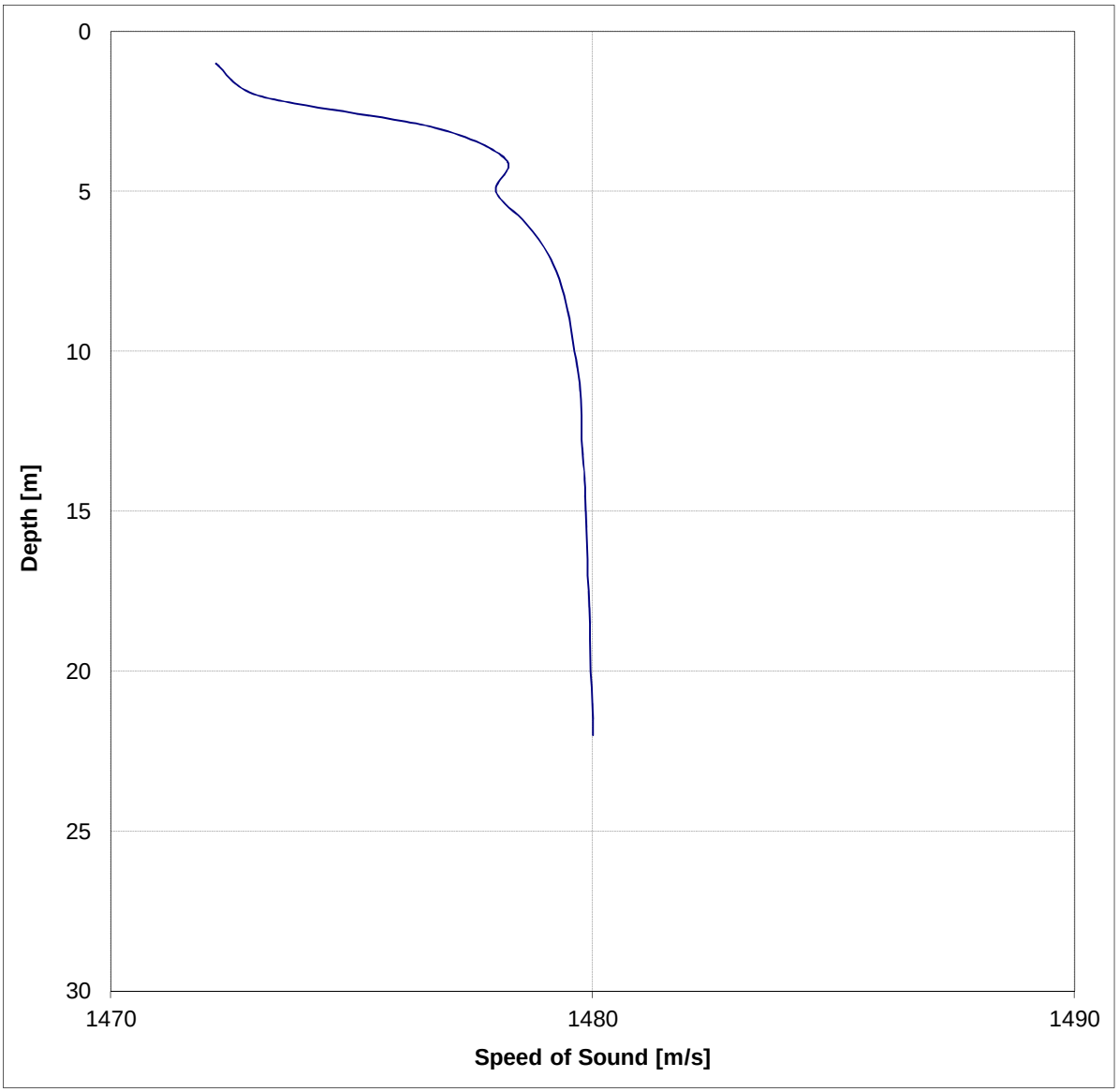
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	23:34 02/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	22.61 m
Easting:	567360 m	Transducer speed of sound:	1478.60 m/s
Northing:	5779619 m	Bottom speed of sound:	1480.03 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1478.76 m/s
Sensor type and S/N:	SD1165	Average density:	1024.78 kg/m^3



For Fugro Survey B.V.

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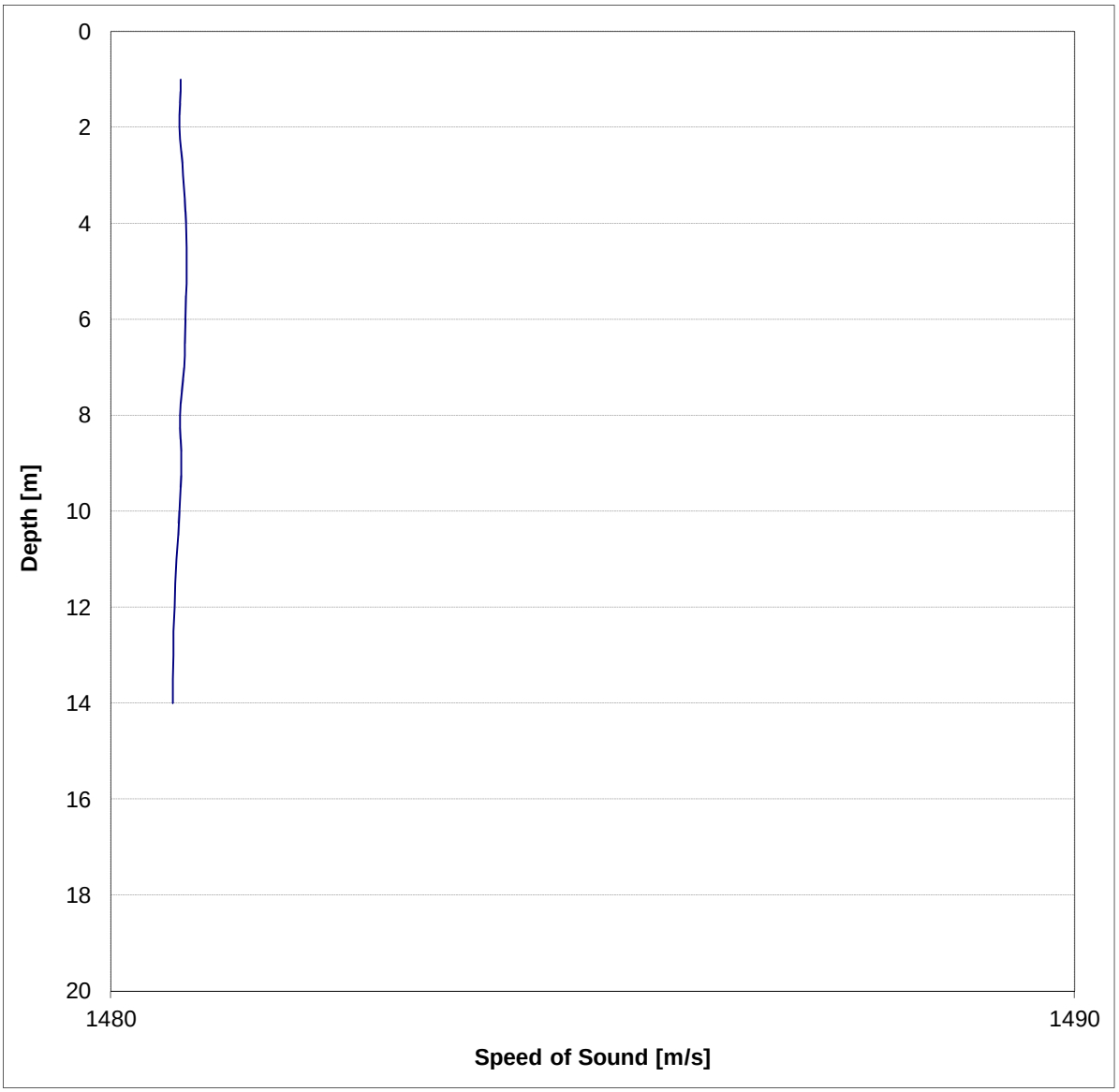
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	17:17 04/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	14.91 m
Easting:	573323 m	Transducer speed of sound:	1480.74 m/s
Northing:	5789335 m	Bottom speed of sound:	1480.63 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.72 m/s
Sensor type and S/N:	SD1165	Average density:	1025.72 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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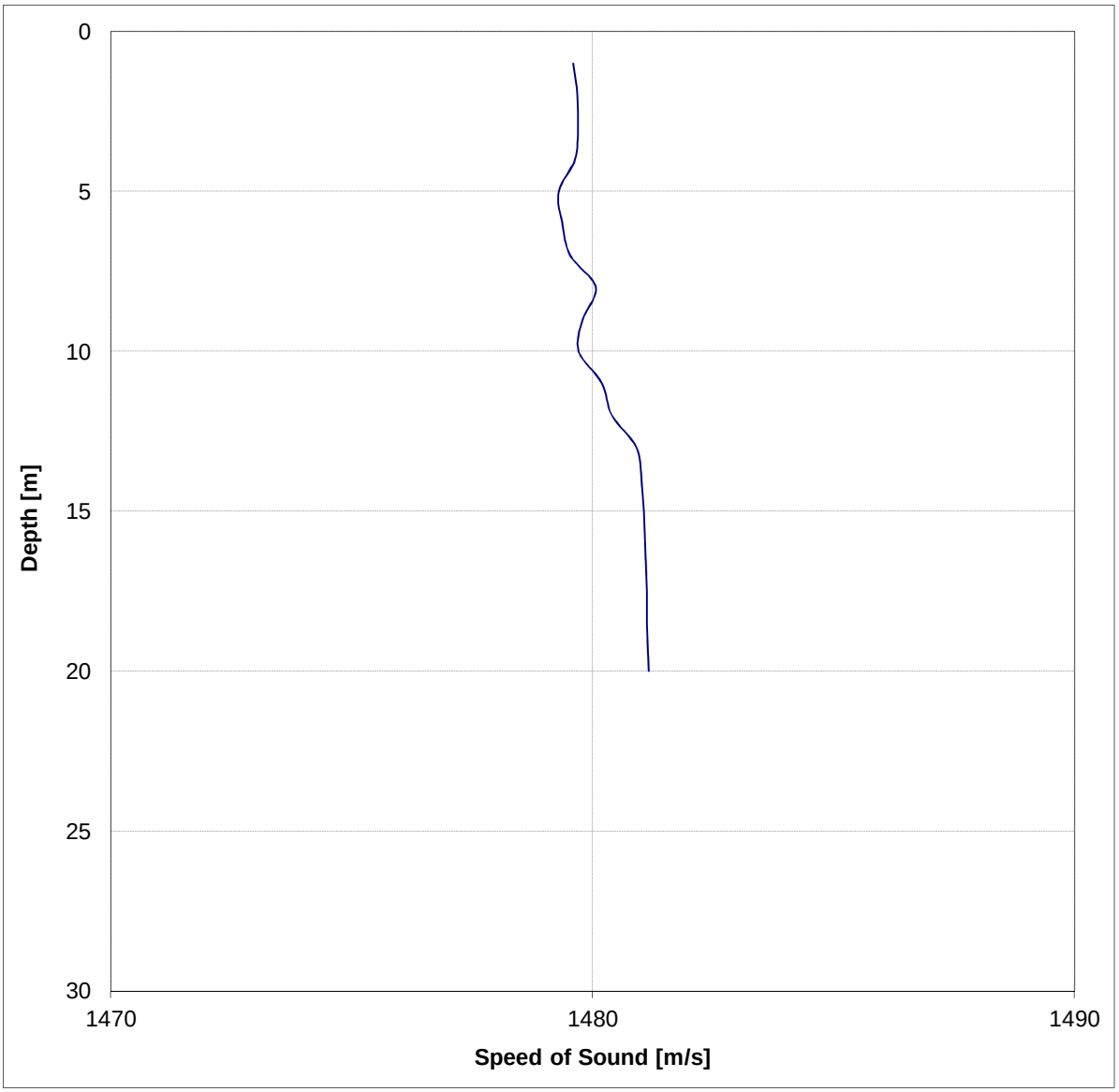
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	00:36 05/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	20.62 m
Easting:	579759 m	Transducer speed of sound:	1479.72 m/s
Northing:	5801486 m	Bottom speed of sound:	1481.17 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1480.27 m/s
Sensor type and S/N:	SD1165	Average density:	1024.89 kg/m^3



For Fugro Survey B.V.

P. Miller

For Client

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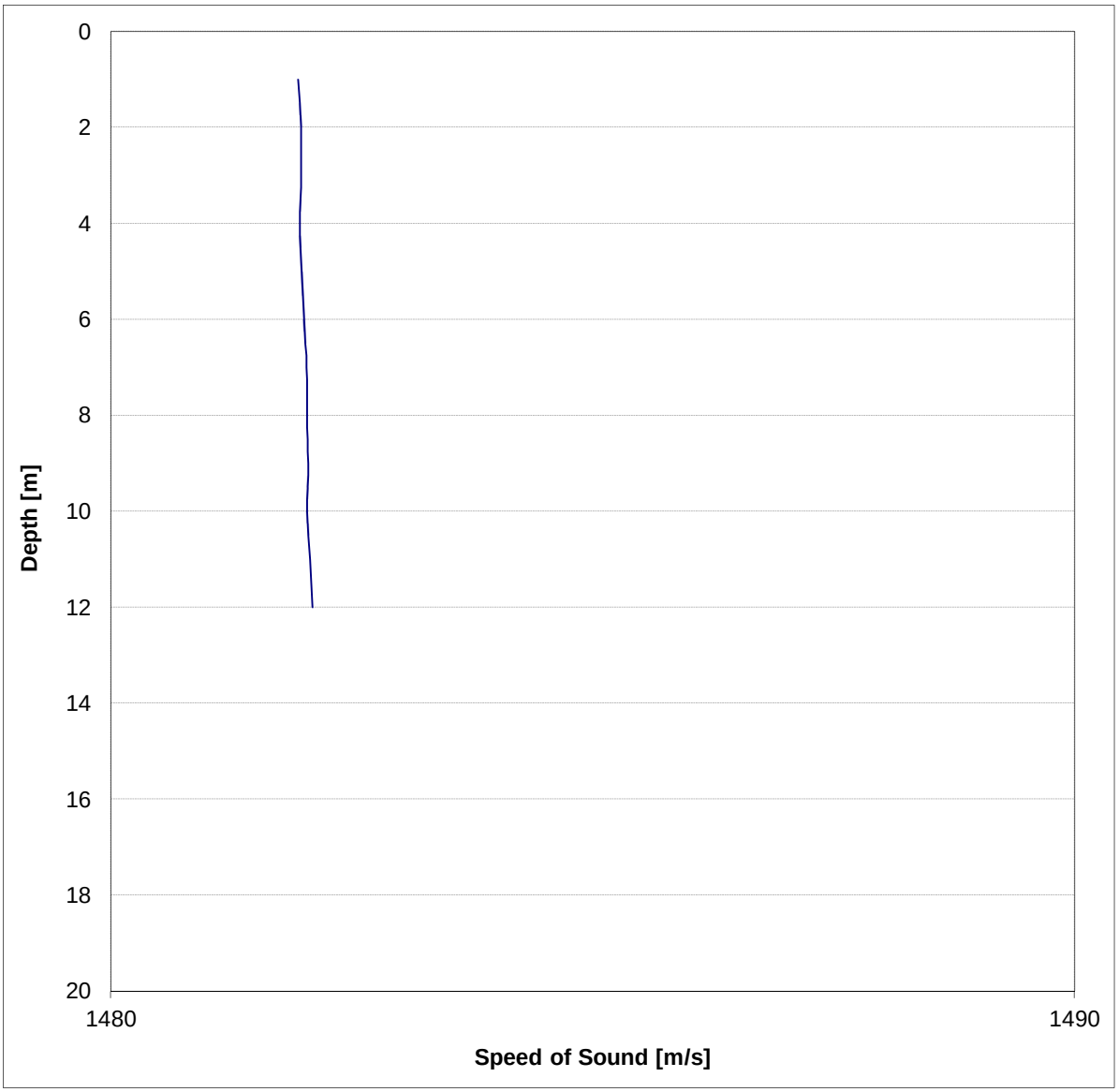
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	14:32 05/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	12.85 m
Easting:	575181 m	Transducer speed of sound:	1481.95 m/s
Northing:	5798967 m	Bottom speed of sound:	1482.13 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1482.01 m/s
Sensor type and S/N:	SD1165	Average density:	1026.30 kg/m^3



For Fugro Survey B.V. **For Client**

P. Miller

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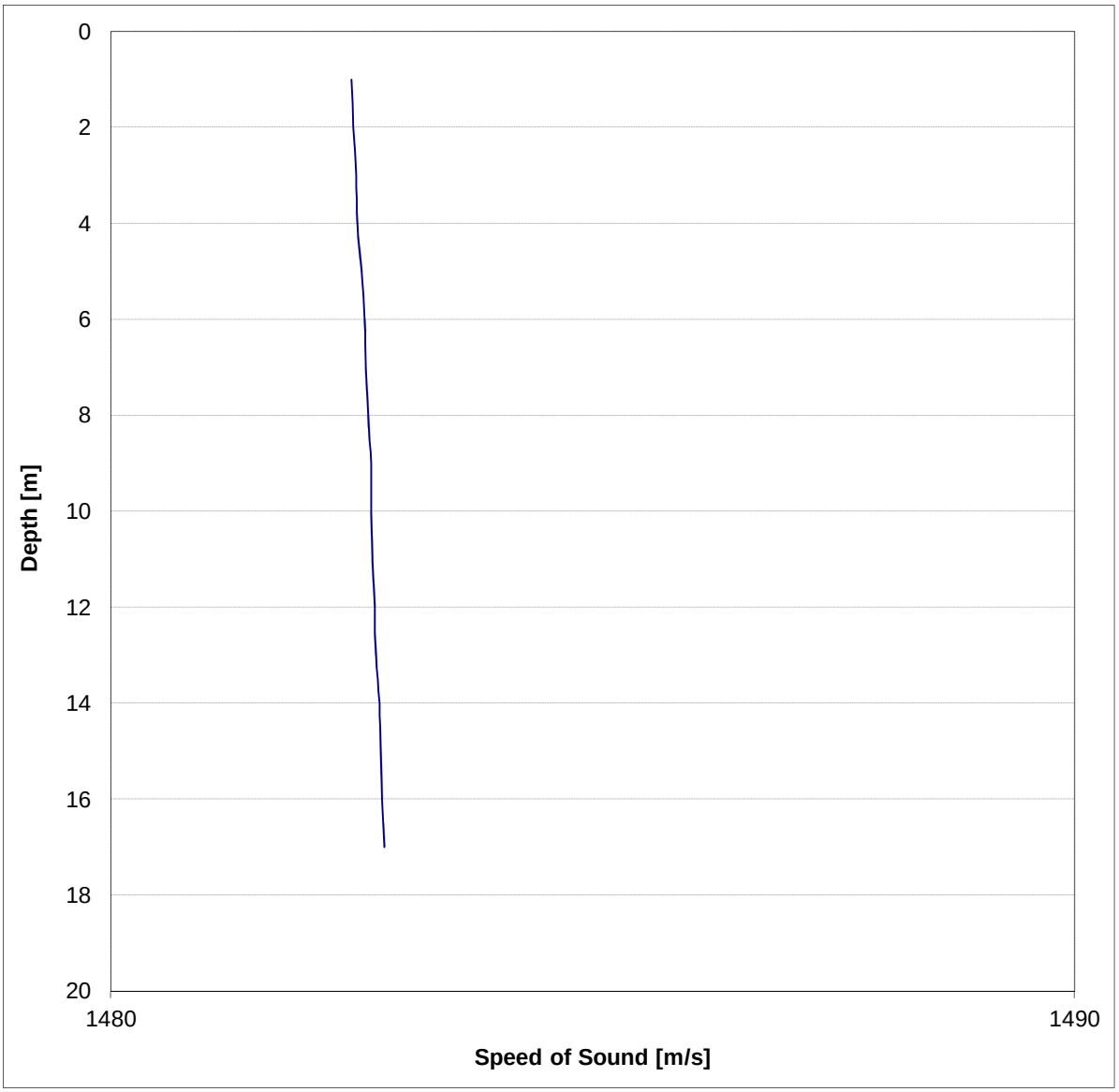
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	19:35 05/Apr/2016
Client:	RVO	Transducer depth:	3.46 m
Survey area:	North Sea	Water depth:	17.41 m
Easting:	559677 m	Transducer speed of sound:	1482.55 m/s
Northing:	5802340 m	Bottom speed of sound:	1482.86 m/s
Datum and projection:	ETRS89 UTM31	Average speed of sound:	1482.67 m/s
Sensor type and S/N:	SD1165	Average density:	1026.68 kg/m^3



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P. Miller

For Client

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A.20 SOUND VELOCITY PROFILER CALIBRATIONS MV VICTOR HENSEN

(4 pages, not numbered)

This certifies that the instrument detailed below has been verified against SAIV A/S calibrated equipment standards, who used equipment with calibrations traceable to UKAS or National Standards.

SAIV A/S SD204

Verification Certificate

Sensor Model:	SD204	Sensor Serial #:	322
Reference Model:	SD208	Reference Serial #:	1221

Speed of Sound

Reference [m/s]	Instrument [m/s]	Error [m/s]	Acceptable Error [m/s]	Result
0.000	0.000	0.000	±0.030	Pass

Temperature

Reference [°C] IPTS 90	Instrument [°C] IPTS 90	Error [°C] IPTS 90	Acceptable Error [°C] IPTS 90	Result
20.783	20.778	0.005	±0.01	Pass
15.617	15.612	0.005	±0.01	Pass
10.462	10.458	0.004	±0.01	Pass

Conductivity

Reference [mS/cm]	Instrument [mS/cm]	Error [mS/cm]	Acceptable Error [mS/cm]	Result
31.207	31.220	0.013	±0.015	Pass

Pressure

Reference [dBar]	Instrument [dBar]	Error %FS	Acceptable Error %FS	Result
10.21	10.16	0.010	±0.015	Pass

Tested by: MPA van Leeuwen

Test Date: 11 December 2015

Signature:

Tested at location:

Fugro Survey B.V.
Veurse Achterweg 12
2264 SG Leidschendam
The Netherlands

SAIV A/S SD204

Pressure Sensor Test Certificate

Sensor Make:	SAIV A/S	Sensor Model:	SD204
Sensor Range (Bar):	50	Sensor Serial #:	322
DWT Model:	GE Sensing P3124-1	DWT Serial #:	66987
Atm. Pressure (Bar):	1.021	Temperature (°C):	18.4

Applied Pressure (Bar)	Pressure % of Full Scale	Readback Pressure (Bar)	Error % of Full Scale	Test Limit % of Full Scale	Result
1.021	2	1.016	0.010	0.05	PASS
11.027	22	11.013	0.027	0.05	PASS
21.033	42	21.033	0.001	0.05	PASS
31.039	62	31.044	-0.010	0.05	PASS
41.045	82	41.059	-0.028	0.05	PASS
51.052	102	51.071	-0.039	0.05	PASS
41.045	82	41.059	-0.027	0.05	PASS
31.039	62	31.046	-0.014	0.05	PASS
21.033	42	21.034	-0.002	0.05	PASS
11.027	22	11.014	0.027	0.05	PASS
1.021	2	1.014	0.013	0.05	PASS

Tested by: MPA van Leeuwen Test Date: 11 December 2015

Signature:

Tested at location:

Fugro Survey B.V.
Veurse Achterweg 12
2264 SG Leidschendam
The Netherlands

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Verification Certificate SAIV SD204

This certifies that the instrument detailed below has been verified against SAIV A/S calibrated equipment standards, who used equipment with calibrations traceable to UKAS or National Standards.

SAIV A/S SD204

Verification Certificate

Sensor Model:	SD204	Sensor Serial #:	1041
Reference Model:	SD208	Reference Serial #:	1221

Speed of Sound

Reference [m/s]	Instrument [m/s]	Error [m/s]	Acceptable Error [m/s]	Result
0.000	0.000	0.000	±0.030	Pass

Temperature

Reference [°C] IPTS 90	Instrument [°C] IPTS 90	Error [°C] IPTS 90	Acceptable Error [°C] IPTS 90	Result
21.587	21.582	0.005	±0.01	Pass
15.237	15.231	0.006	±0.01	Pass
9.483	9.478	0.005	±0.01	Pass

Conductivity

Reference [mS/cm]	Instrument [mS/cm]	Error [mS/cm]	Acceptable Error [mS/cm]	Result
17.223	17.230	0.007	±0.015	Pass

Pressure

Reference [dBar]	Instrument [dBar]	Error %FS	Acceptable Error %FS	Result
10.12	9.95	0.006	±0.05	Pass

Tested by: MPA van Leeuwen Test Date: 8 April 2016

Signature:

Tested at location:

Fugro Survey B.V.
Veurse Achterweg 12
2264 SG Leidschendam
The Netherlands

SAIV A/S SD204

Pressure Sensor Test Certificate

Sensor Make:	SAIV A/S	Sensor Model:	SD204
Sensor Range (Bar):	300	Sensor Serial #:	1041
DWT Model:	GE Sensing P3124-1	DWT Serial #:	66987
Atm. Pressure (Bar):	1.012	Temperature (°C):	19.4

Applied Pressure (Bar)	Pressure % of Full Scale	Readback Pressure (Bar)	Error % of Full Scale	Test Limit % of Full Scale	Result
1.012	0	0.995	0.006	0.05	PASS
61.049	20	61.059	-0.003	0.05	PASS
121.086	40	121.119	-0.011	0.05	PASS
181.123	60	181.188	-0.022	0.05	PASS
241.160	80	241.215	-0.019	0.05	PASS
301.197	100	301.312	-0.039	0.05	PASS
241.160	80	241.220	-0.020	0.05	PASS
181.123	60	181.193	-0.024	0.05	PASS
121.086	40	121.122	-0.012	0.05	PASS
61.049	20	61.057	-0.003	0.05	PASS
1.012	0	0.998	0.005	0.05	PASS

Tested by: MPA van Leeuwen Test Date: 8 April 2016

Signature:

Tested at location:

Fugro Survey B.V.
Veurse Achterweg 12
2264 SG Leidschendam
The Netherlands

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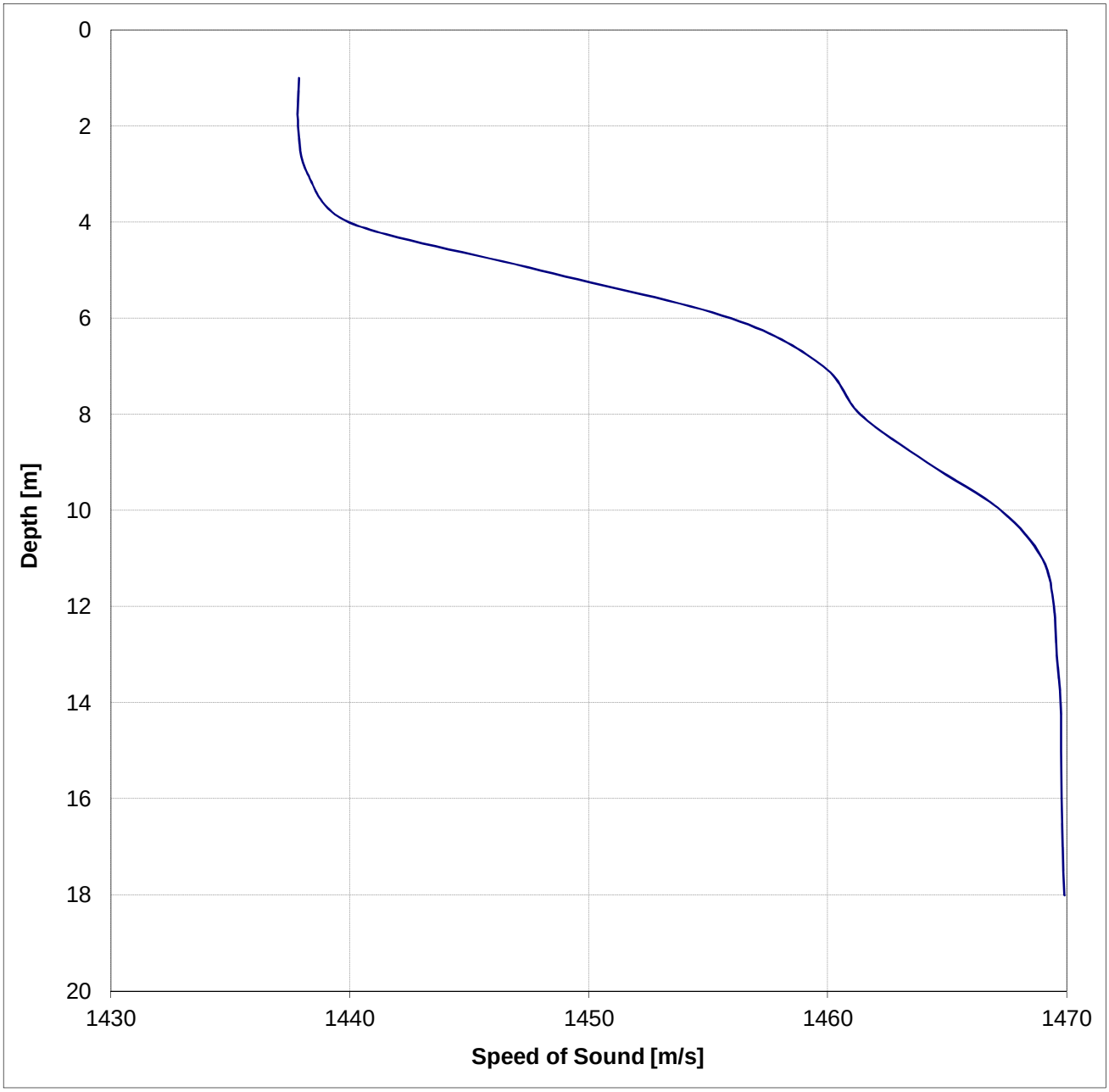
A.21 SOUND VELOCITY PROFILER MEASUREMENTS MV VICTOR HENSEN

(18 pages, not numbered)

SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	10:25 19/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	18.65 m
Easting:	579928 m	Transducer speed of sound:	1439.90 m/s
Northing:	5756509 m	Bottom speed of sound:	1469.88 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1459.20 m/s
Sensor type and S/N:	SD204/322	Average density:	1015.64 kg/m^3

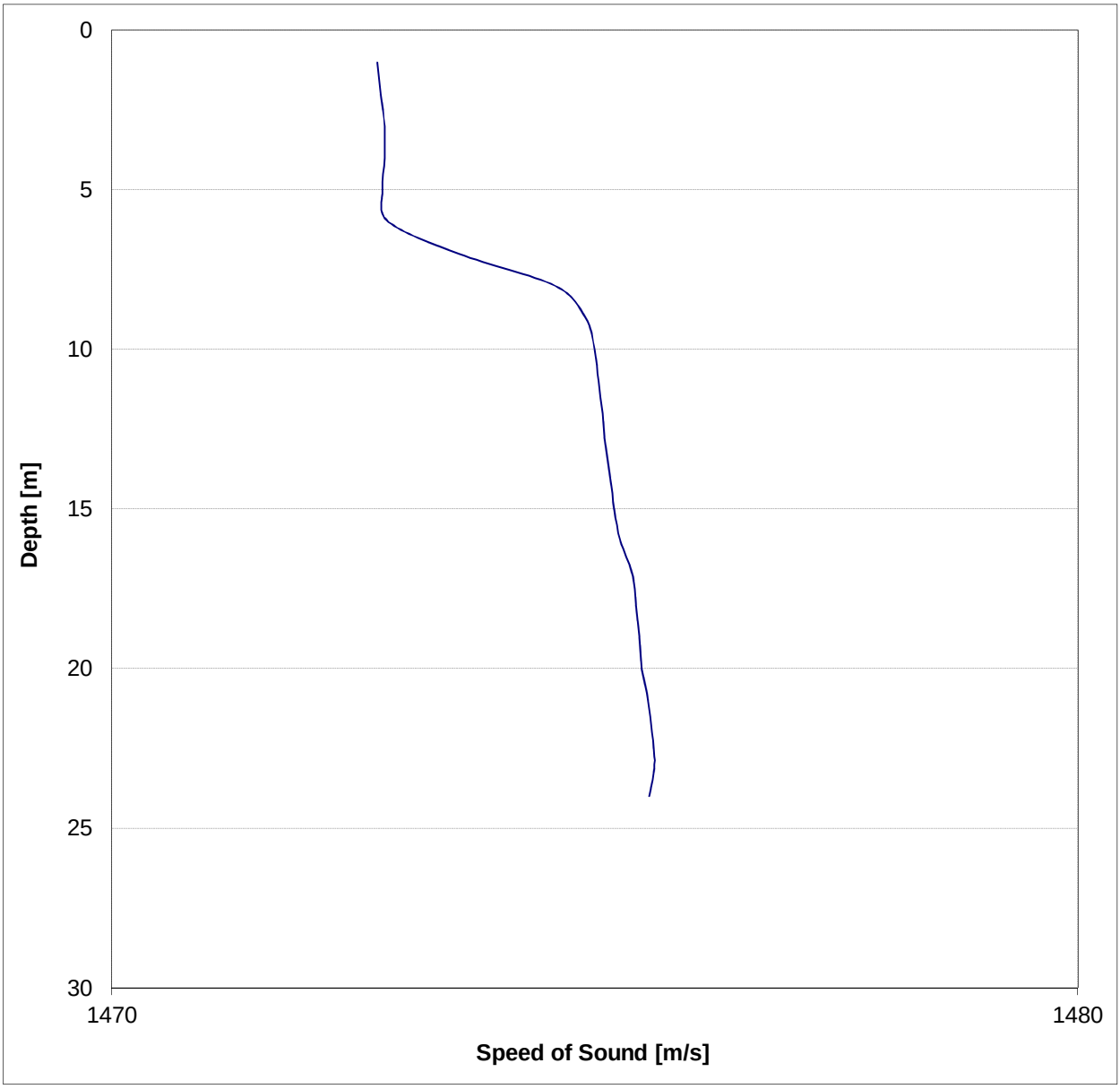


For Fugro Survey B.V. **For Client**

© Fugro Survey B.V.

SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	15:39 19/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	24.14 m
Easting:	562788 m	Transducer speed of sound:	1472.85 m/s
Northing:	5784433 m	Bottom speed of sound:	1475.36 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1474.58 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.13 kg/m^3



For Fugro Survey B.V.

L. de Haan

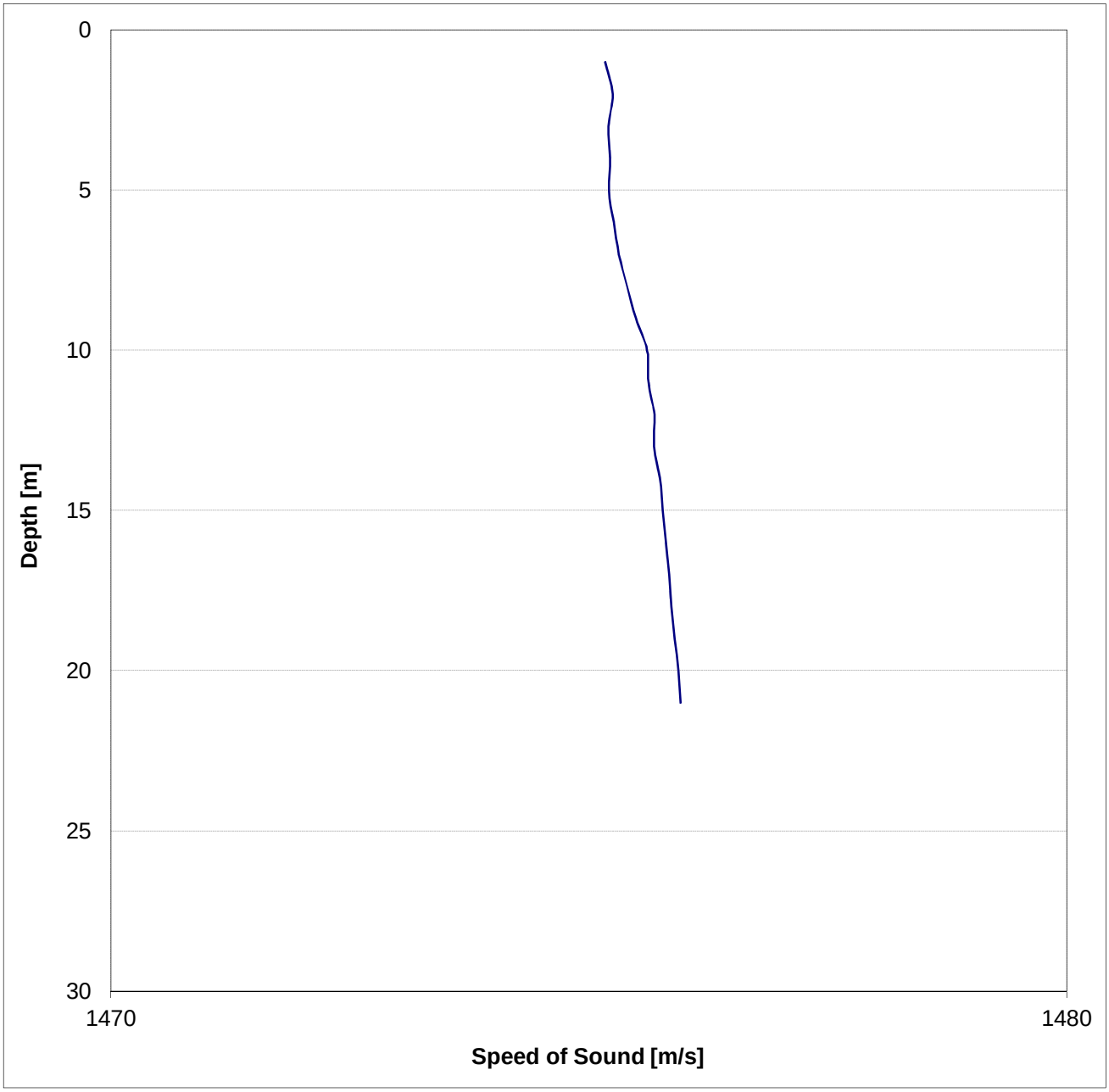
For Client

P. Kitlowski

© Fugro Survey B.V. 20160319_GH176_SVP_Report_USBL_Calibration_VH.xls

SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	04:16 20/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	21.18 m
Easting:	565848 m	Transducer speed of sound:	1475.24 m/s
Northing:	5787150 m	Bottom speed of sound:	1475.97 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1475.57 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.80 kg/m^3



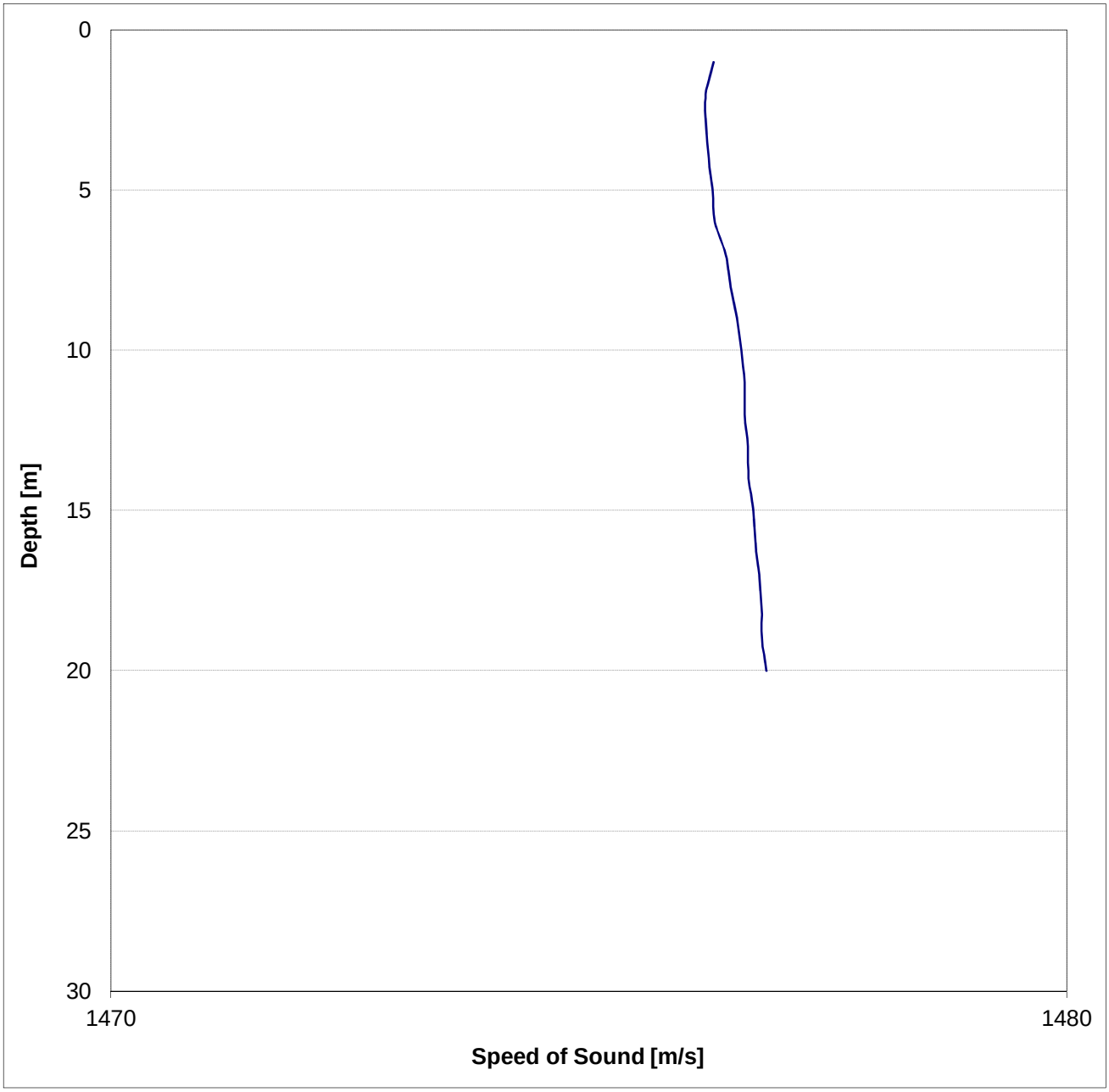
For Fugro Survey B.V.

For Client

© Fugro Survey B.V. 20160320_GH176_SVP_Report_MBE_Patch_Test_VH.xls

SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	19:21 20/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	20.67 m
Easting:	562592 m	Transducer speed of sound:	1476.24 m/s
Northing:	5784250 m	Bottom speed of sound:	1476.85 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1476.55 m/s
Sensor type and S/N:	SD204/322	Average density:	1026.04 kg/m^3



For Fugro Survey B.V.

For Client

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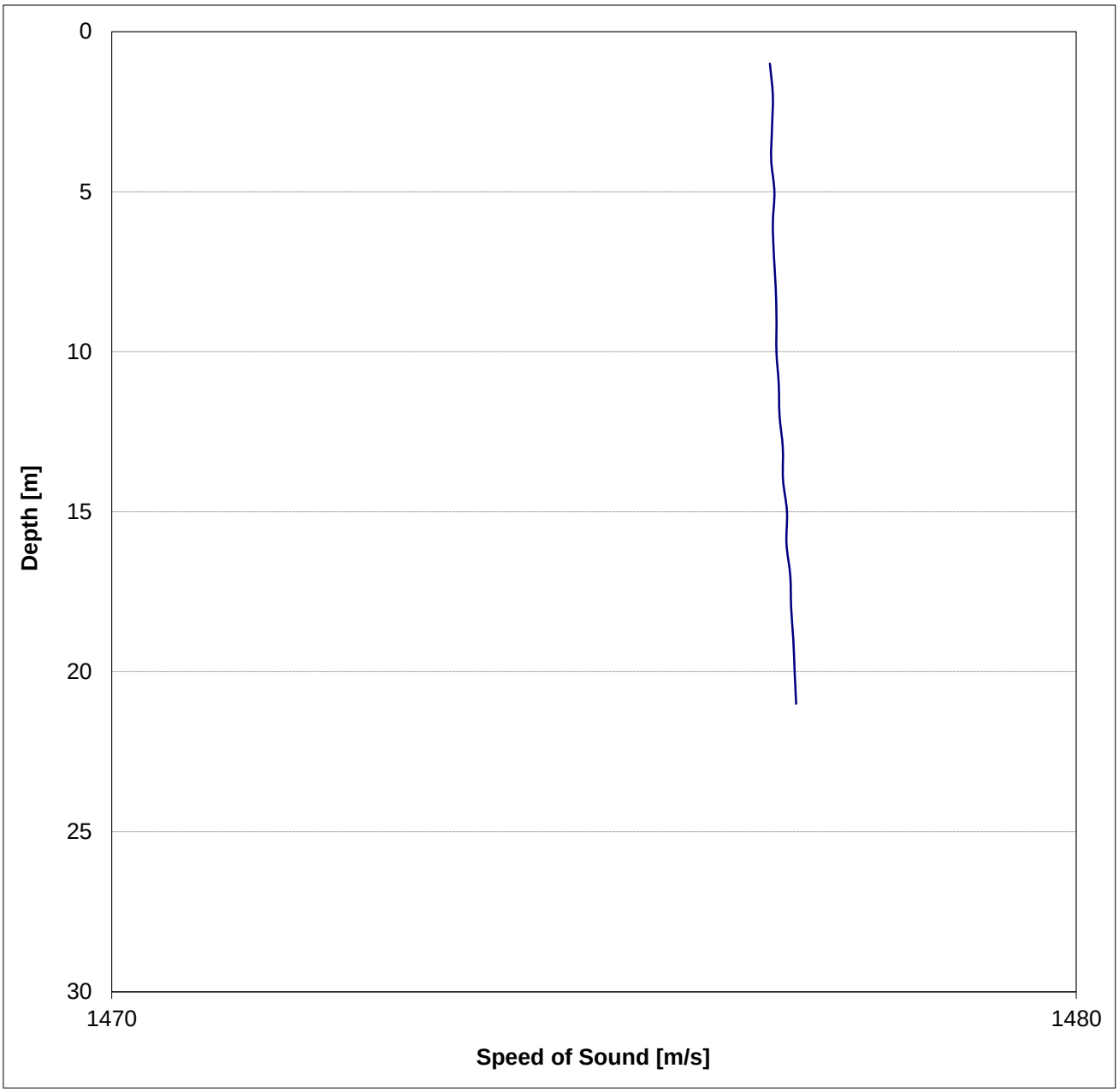
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	08:41 21/Mar/2016
Client:	RVO	Transducer depth:	7.80 m
Survey area:	HKZ OWF	Water depth:	21.61 m
Easting:	572395 m	Transducer speed of sound:	1476.88 m/s
Northing:	5798337 m	Bottom speed of sound:	1477.11 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1476.94 m/s
Sensor type and S/N:	SD204/322	Average density:	1026.45 kg/m^3



For Fugro Survey B.V.

For Client

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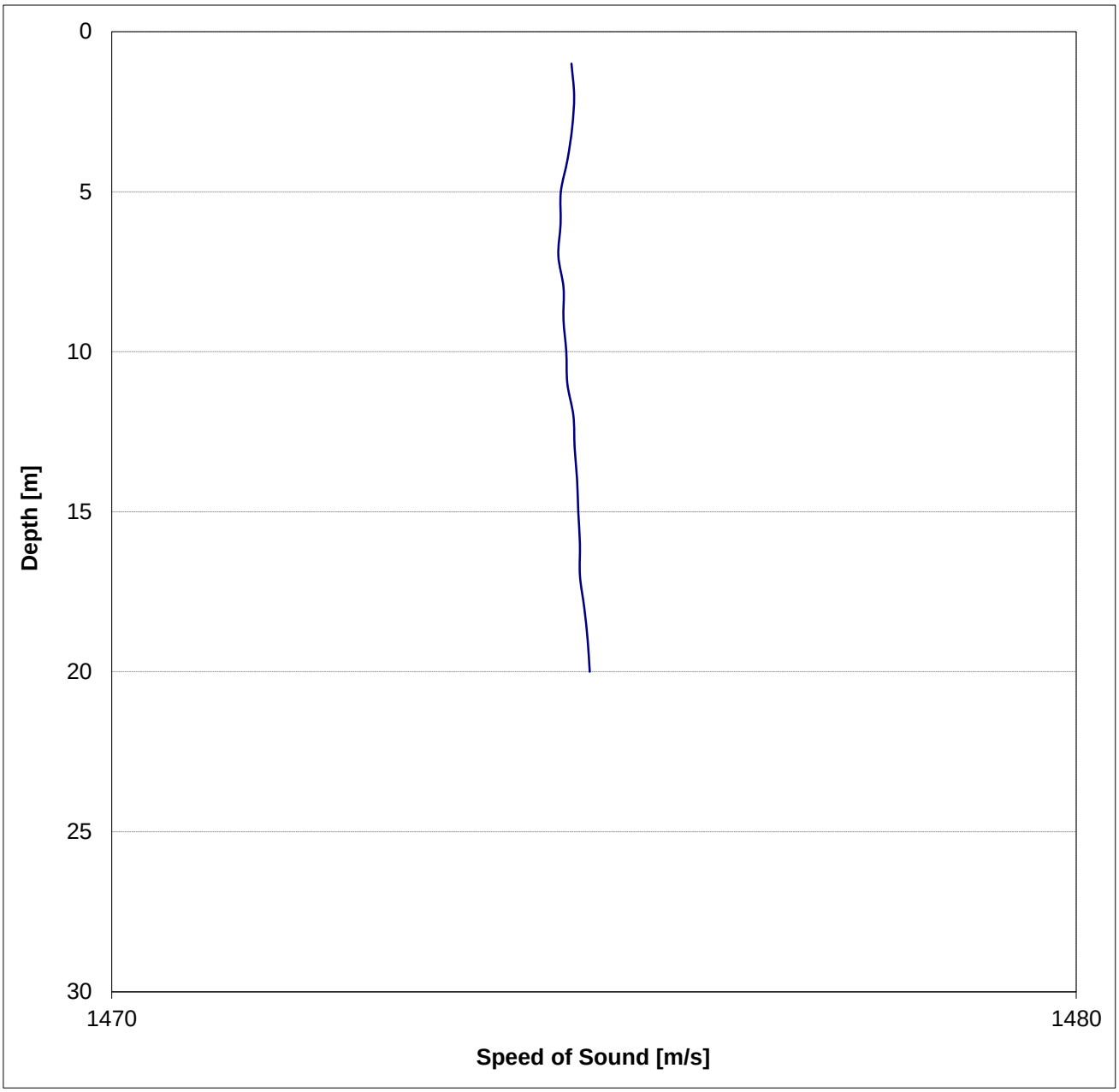
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	11:01 22/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	20.17 m
Easting:	579651 m	Transducer speed of sound:	1474.70 m/s
Northing:	5796559 m	Bottom speed of sound:	1474.96 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1474.78 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.27 kg/m^3



For Fugro Survey B.V.

For Client

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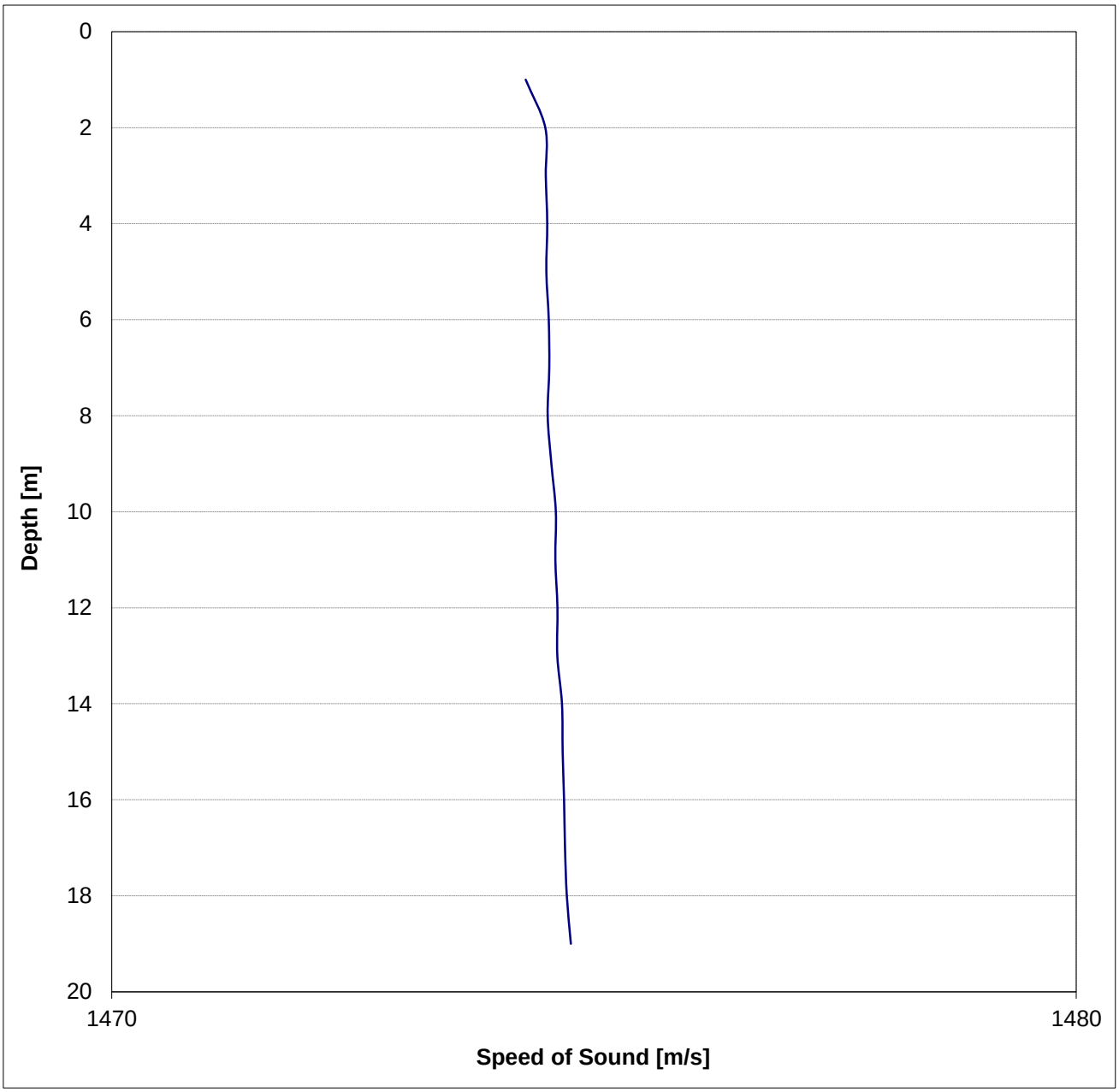
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	23:59 22/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	19.73 m
Easting:	580152 m	Transducer speed of sound:	1474.50 m/s
Northing:	5798420 m	Bottom speed of sound:	1474.79 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1474.58 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.14 kg/m^3



For Fugro Survey B.V.

For Client

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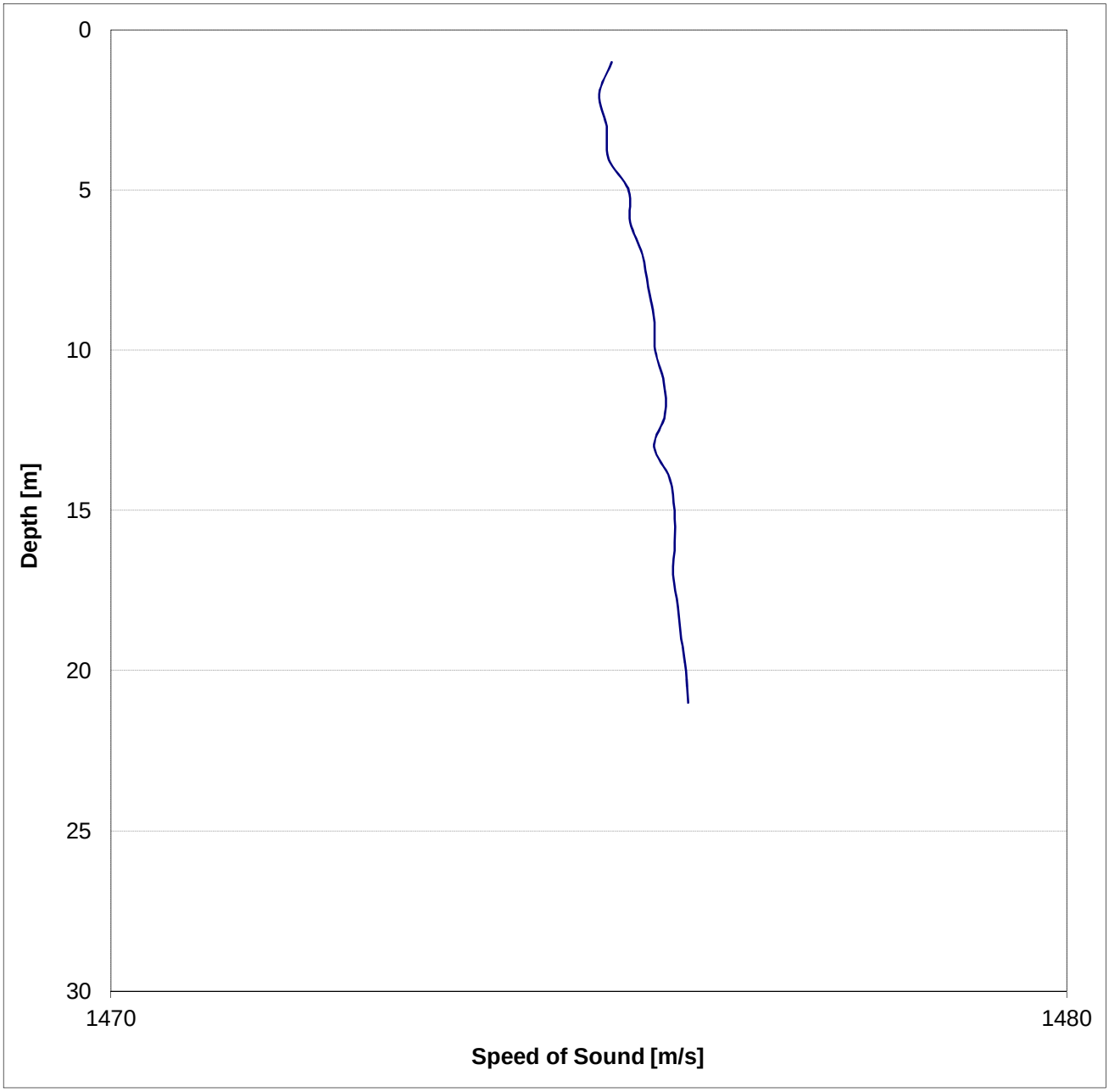
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	11:27 23/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	21.51 m
Easting:	576147 m	Transducer speed of sound:	1475.21 m/s
Northing:	5789397 m	Bottom speed of sound:	1476.03 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1475.66 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.60 kg/m^3



For Fugro Survey B.V.

For Client

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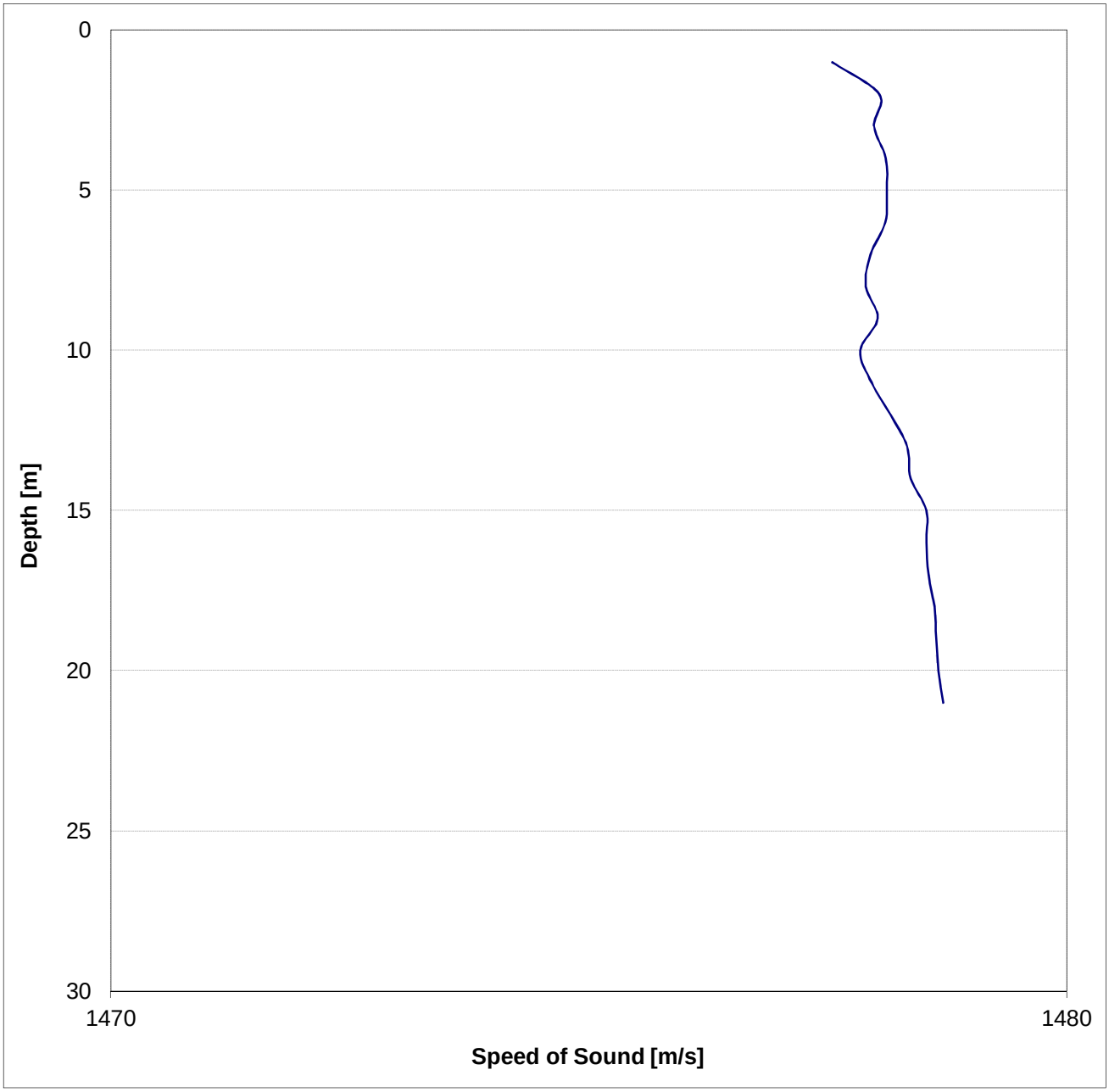
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	16:27 30/Mar/2016
Client:	RVO	Transducer depth:	4.16 m
Survey area:	HKZ OWF	Water depth:	21.29 m
Easting:	572930 m	Transducer speed of sound:	1478.11 m/s
Northing:	5785114 m	Bottom speed of sound:	1478.71 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1478.22 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.13 kg/m^3



For Fugro Survey B.V.

For Client

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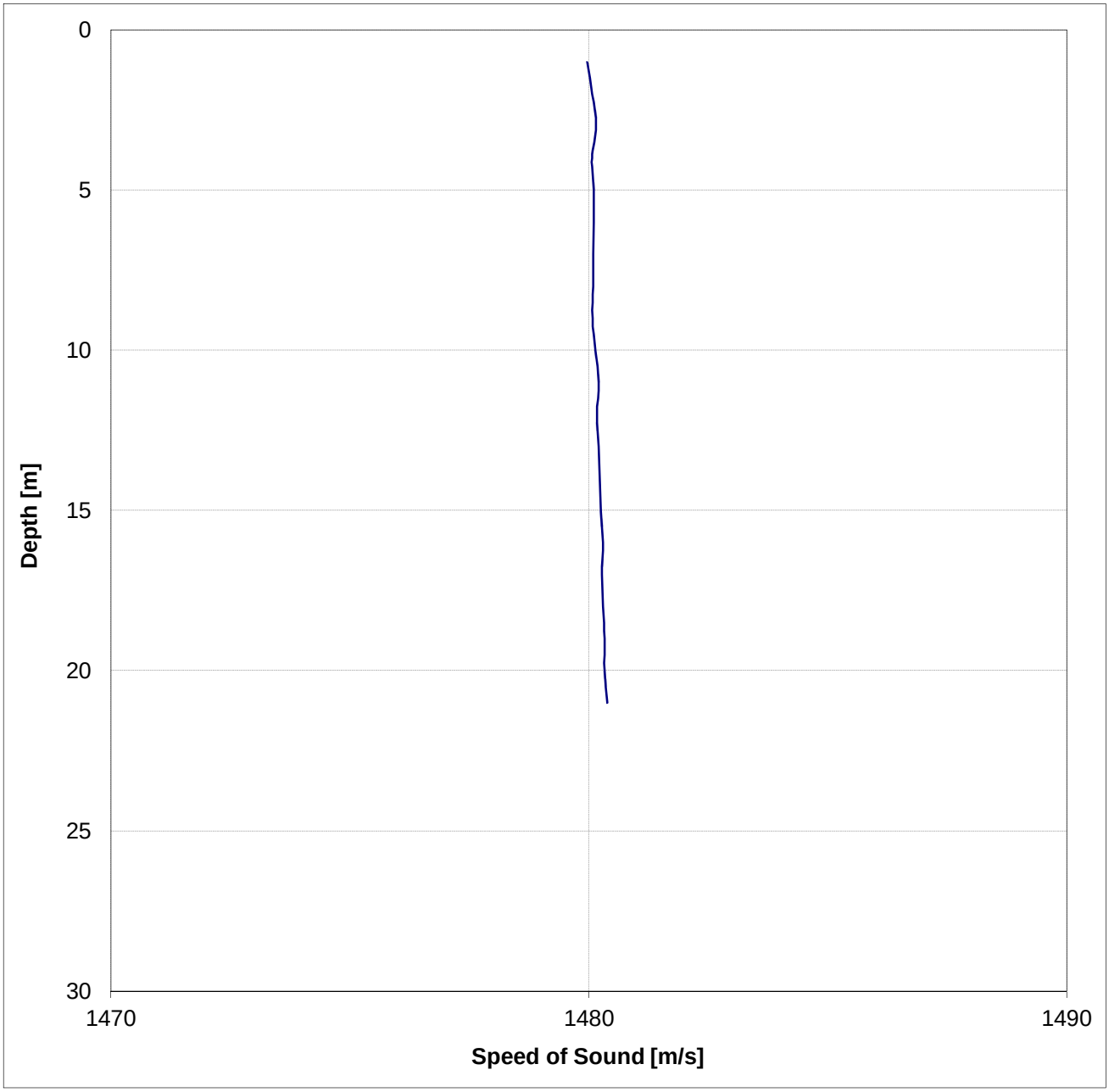
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	23:02 30/Mar/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	21.04 m
Easting:	566169 m	Transducer speed of sound:	1480.03 m/s
Northing:	5784436 m	Bottom speed of sound:	1480.38 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1480.18 m/s
Sensor type and S/N:	SD204/322	Average density:	1026.22 kg/m^3



For Fugro Survey B.V.

For Client

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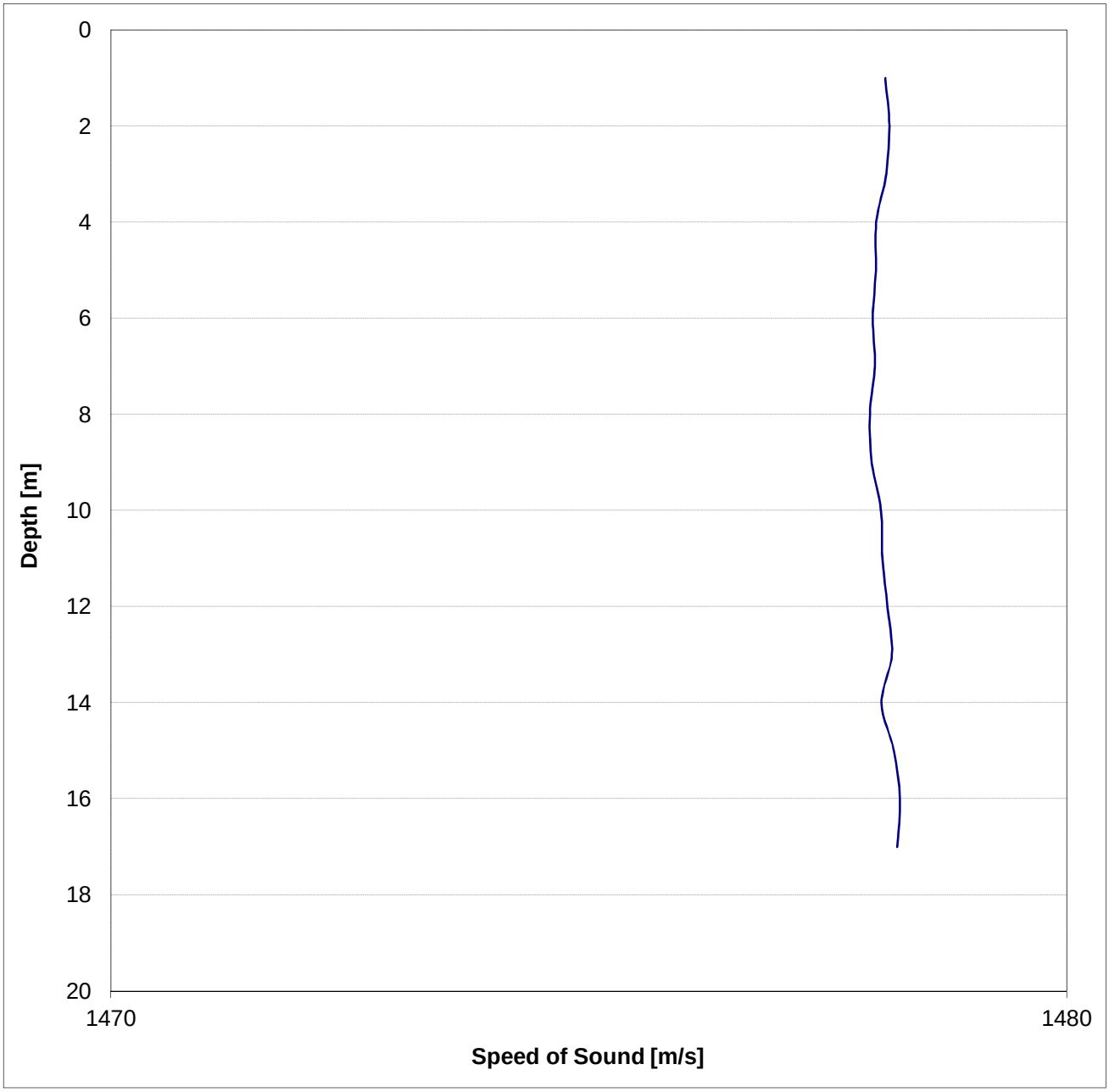
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	12:05 31/Mar/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	17.92 m
Easting:	584757 m	Transducer speed of sound:	1478.06 m/s
Northing:	5809534 m	Bottom speed of sound:	1478.34 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1478.08 m/s
Sensor type and S/N:	SD204/1041	Average density:	1024.97 kg/m^3



For Fugro Survey B.V.

For Client

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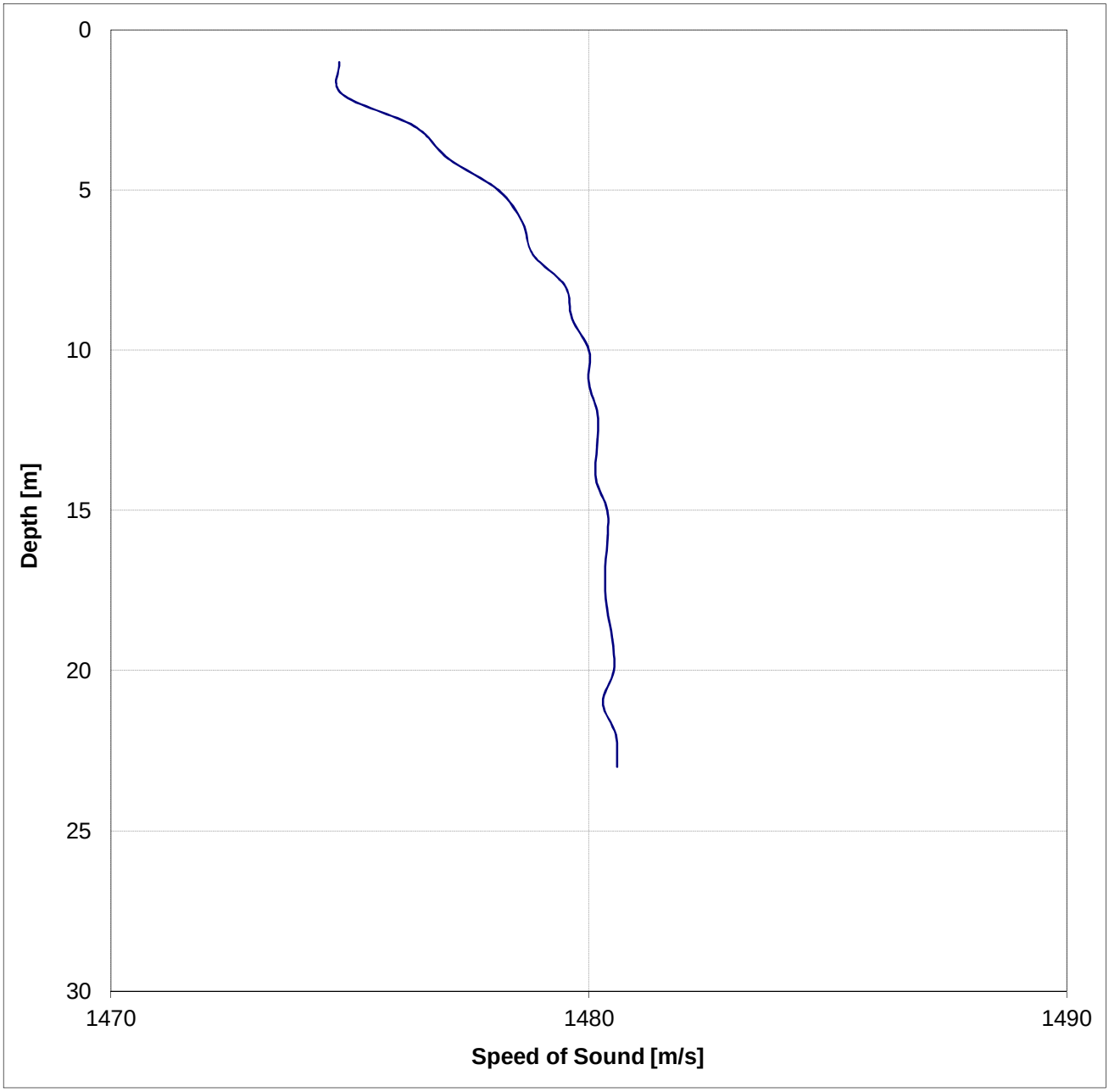
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	08:43 01/Apr/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	23.04 m
Easting:	572104 m	Transducer speed of sound:	1477.08 m/s
Northing:	5784602 m	Bottom speed of sound:	1480.64 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1479.22 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.44 kg/m^3



For Fugro Survey B.V.

For Client

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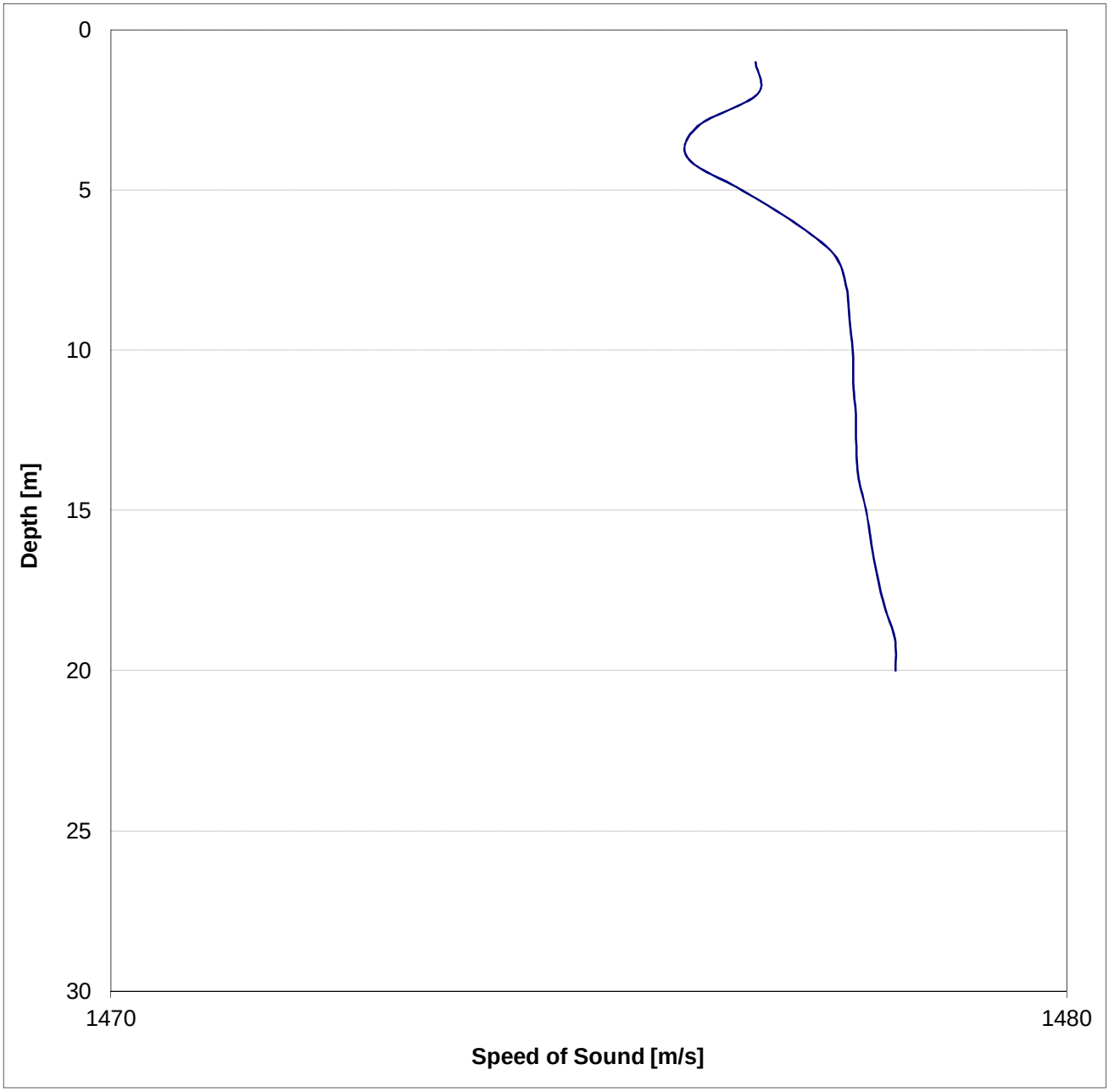
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	13:18 01/Apr/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	20.39 m
Easting:	583303 m	Transducer speed of sound:	1476.04 m/s
Northing:	5809755 m	Bottom speed of sound:	1478.20 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1477.49 m/s
Sensor type and S/N:	SD204/322	Average density:	1024.48 kg/m^3



For Fugro Survey B.V.

For Client

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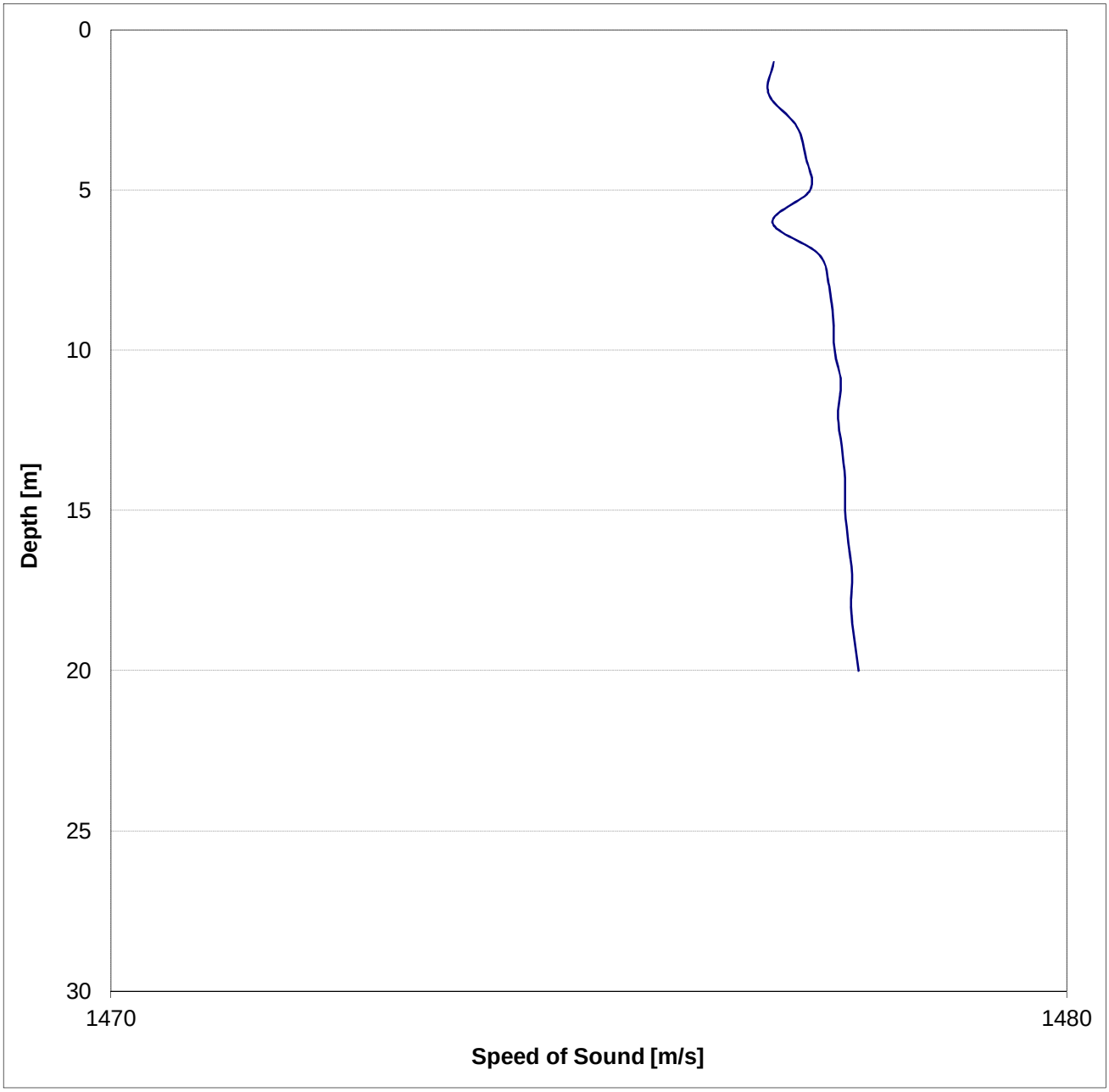
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	06:49 02/Apr/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	20.61 m
Easting:	583735 m	Transducer speed of sound:	1477.29 m/s
Northing:	5810740 m	Bottom speed of sound:	1477.85 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1477.48 m/s
Sensor type and S/N:	SD204/322	Average density:	1024.51 kg/m^3



For Fugro Survey B.V.

For Client

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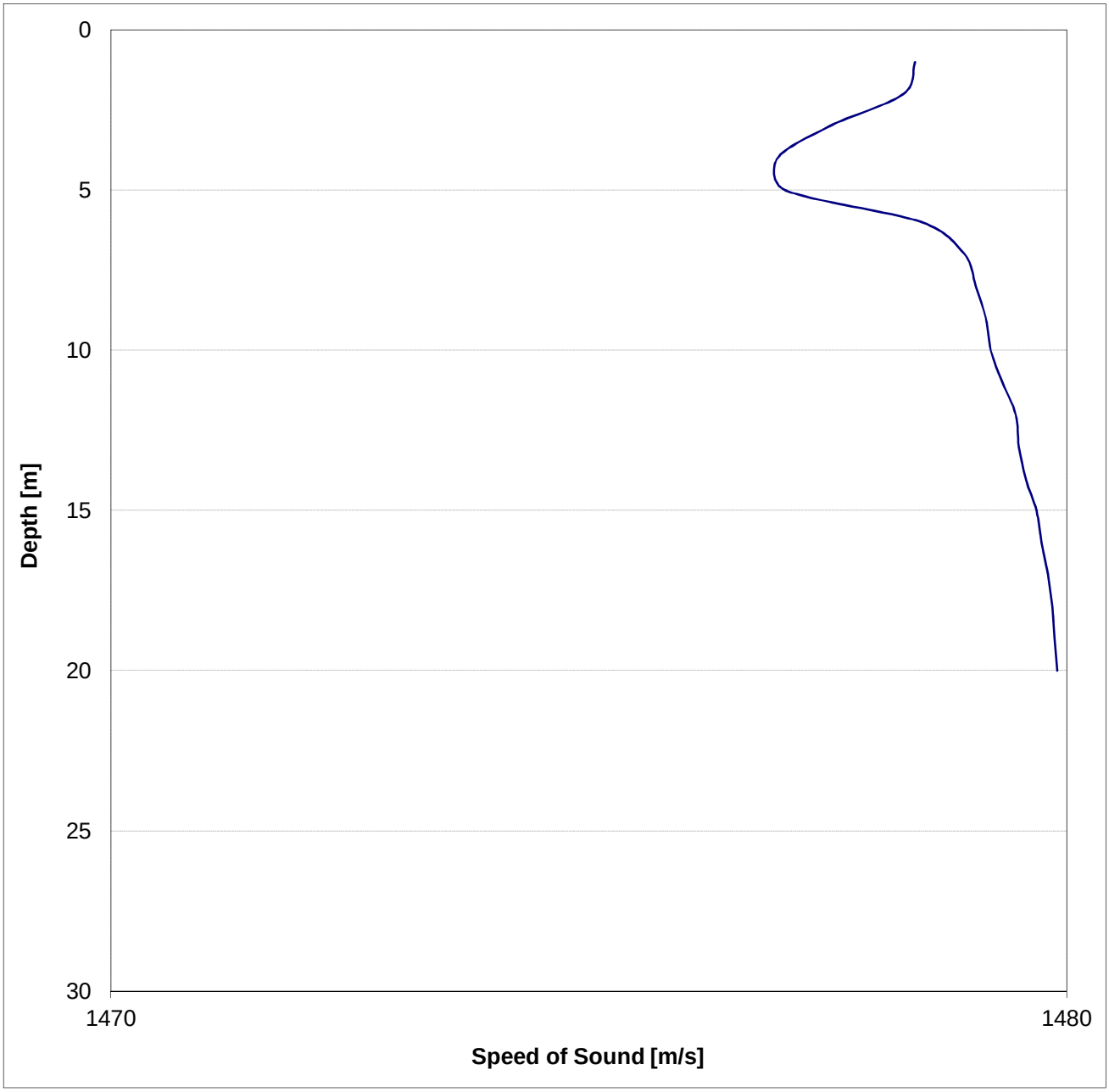
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	15:30 02/Apr/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	20.69 m
Easting:	580195 m	Transducer speed of sound:	1477.03 m/s
Northing:	5800897 m	Bottom speed of sound:	1479.89 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1478.99 m/s
Sensor type and S/N:	SD204/322	Average density:	1024.96 kg/m^3



For Fugro Survey B.V.

For Client

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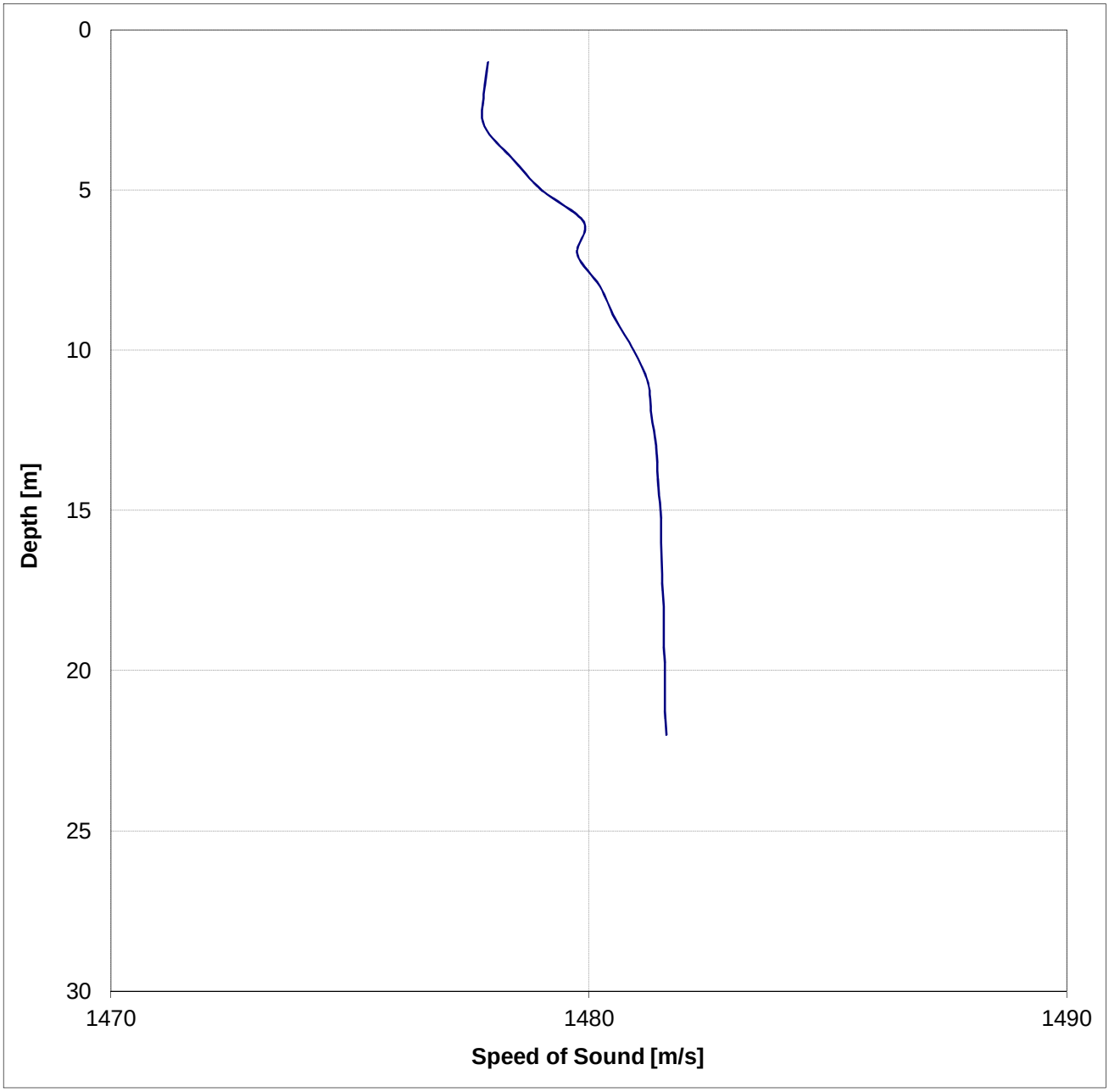
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	20:59 02/Apr/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	22.75 m
Easting:	573374 m	Transducer speed of sound:	1478.71 m/s
Northing:	5792089 m	Bottom speed of sound:	1481.63 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1480.46 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.66 kg/m^3



For Fugro Survey B.V.

For Client

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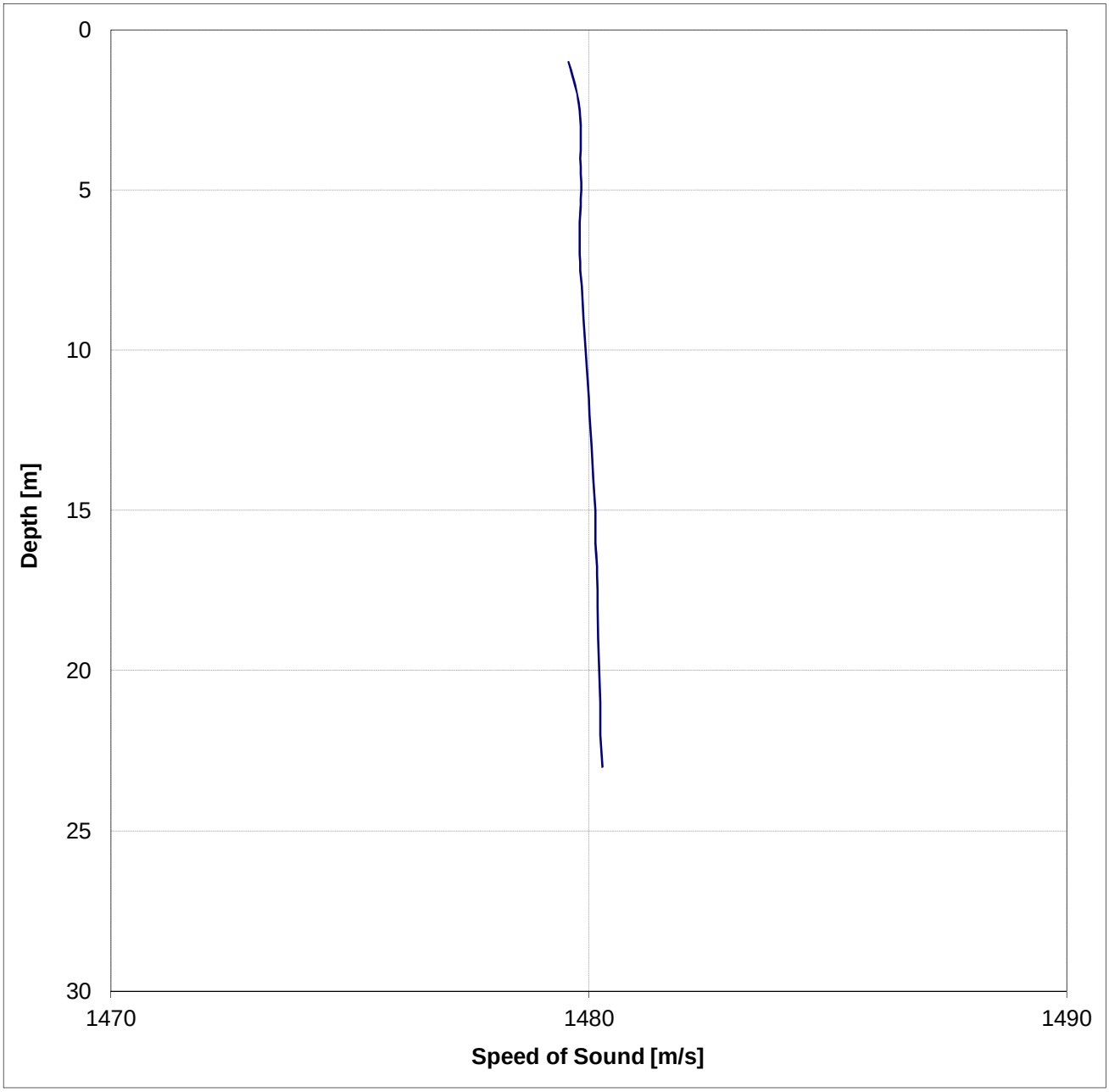
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	09:01 03/Apr/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	23.62 m
Easting:	566755 m	Transducer speed of sound:	1480.07 m/s
Northing:	5780223 m	Bottom speed of sound:	1480.29 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1480.00 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.70 kg/m^3



For Fugro Survey B.V.

For Client

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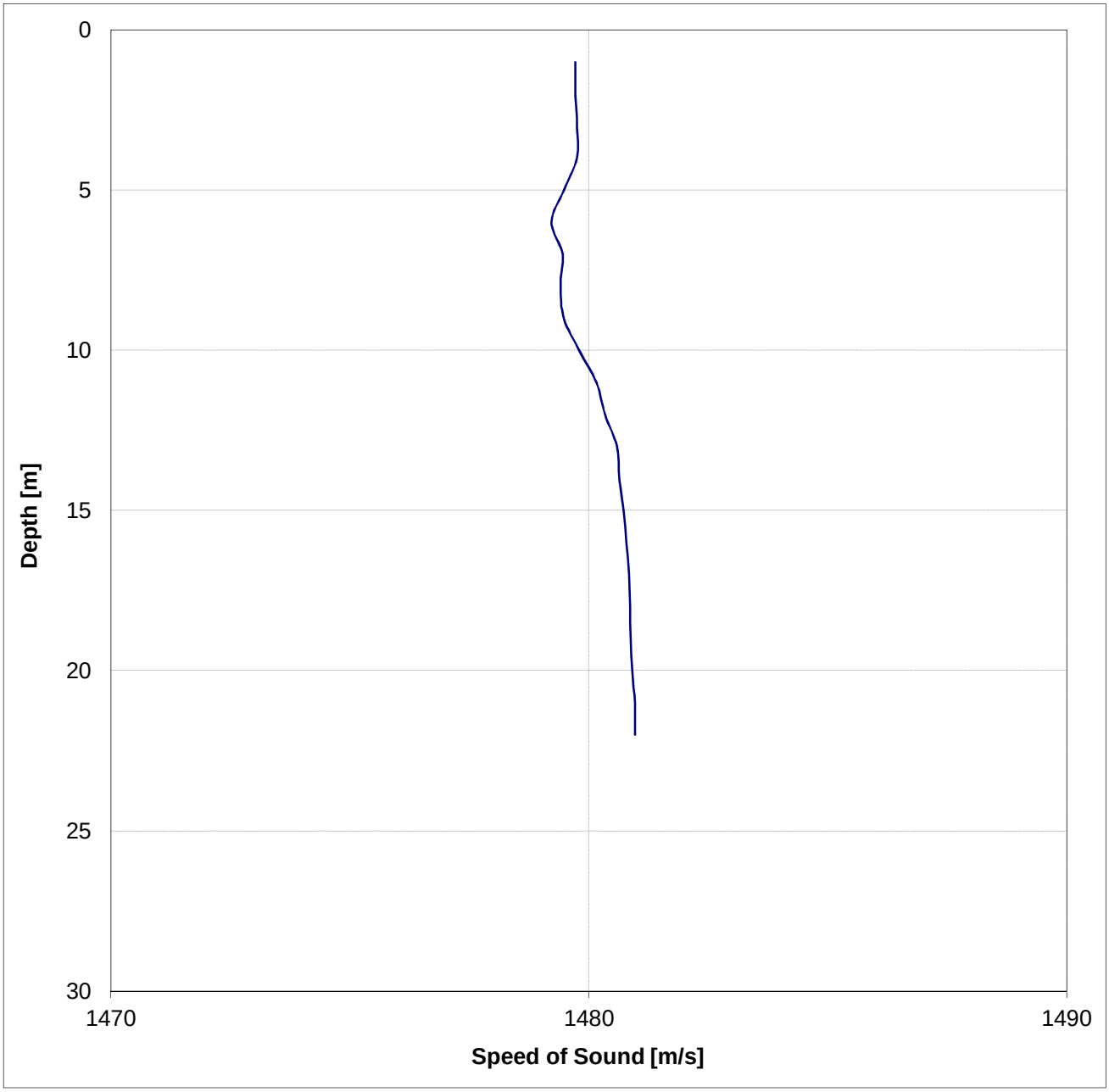
SOUND SPEED PROFILE REPORT

Profile details			
Project number:	GH176	Date and time:	11:50 04/Apr/2016
Client:	RVO	Transducer depth:	3.93 m
Survey area:	HKZ OWF	Water depth:	22.49 m
Easting:	576611 m	Transducer speed of sound:	1479.74 m/s
Northing:	5801632 m	Bottom speed of sound:	1480.98 m/s
Datum and projection:	ETRS89 UTM31N	Average speed of sound:	1480.20 m/s
Sensor type and S/N:	SD204/322	Average density:	1025.59 kg/m^3



For Fugro Survey B.V.

For Client

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B. DAILY OPERATIONS REPORTS

B.1 Daily Operations Reports MV Fugro Pioneer

B.2 Daily Operations Reports MV Victor Hensen

B.1 DAILY OPERATIONS REPORTS MV FUGRO PIONEER

(173 pages, not numbered)

DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin. R. Davies	
	Client:	Ben de Sonneville, Ruud de Bruijne, Frank van Erp; , RVO Site Investigations,	

DOR No.	**001**	**Date**	**Monday, 7 March 2016**

Diary Of Events

Code	From	To	Period	Description
M/D	10:00	24:00	14:00	Alongside Scheveningen for mobilisation
				- Crew change
				- Mobilisation of UHRS Streamer and Sparker
				- Vessel Safety Induction tours for new onsigners and refreshers
				- Update of Starfix NG software.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; I. Josselin. R. Davies		
	Client: Ben de Sonneville, Ruud de Bruijne, Frank van Erp; , RVO Site Investigations,		

DOR No.	**001**	**Date**	**Monday, 7 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	14:00	14.00	0.00	14.00
CAL	Calibrations	00:00	0.00	0.00	0.00
TR	Transit to/from work site	00:00	0.00	0.00	0.00
OPS.GEO	Operational Geophysical	00:00	0.00	0.00	0.00
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	0.00	0.00
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**14:00**	**14.00**	**0.00**	**14.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
0000	1400	Continue Mobilisation, and Harbour calibrations
1400	1600	Project Kick off Meting
1600	2000	Mobilisation tests
2000	2400	Assess readiness for sailing, status of mobilisation tests for UHRS and Weather forecast to be reviewed.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin. R. Davies	
	Client:	Ben de Sonneville, Ruud de Bruijne, Frank van Erp; , RVO Site Investigations,	

DOR No.	**001**	**Date**	**Monday, 7 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	0
Transit etc km today	0	**Transit etc km to date**	0	**Percentage to date**	0.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1011	NW	3	1.5		
06:00	1011	NW	1	0.5		
12:00	1012	NE	1	-		Inport
18:00	1018	ESE	2	-		In port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; I. Josselin. R. Davies		
	Client: Ben de Sonneville, Ruud de Bruijne, Frank van Erp; , RVO Site Investigations,		

DOR No.	**001**	**Date**	**Monday, 7 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction	7	7	No	Vessel Coordination Meeting		0	Yes
Toolbox Talks	2	2	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		0	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	4
Working At Height - Ladder	3
Mobilisation of equipment	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	108.7	1.1	0.0	107.6
Lubes (Ltr)	580.0	0.0	0.0	580.0
Water (cu.m)	102.0	6.0	0.0	96.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative onboard Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs

Personnel:	**Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)
	Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)
	Client:	A. Fleet 29
Equipment		Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord

DOR No.	**002**	**Date**	**Tuesday, 8 March 2016**

Diary Of Events

Code	From	To	Period	Description
M/D	00:00	24:00	24:00	Alongside Scheveningen for mobilisation
				- Continue mobilisaiton and deck testing of UHRS Streamer
				- Setup of Sparker sources
				- Fugro Project manager, HSE manager and Reports co-ordinator onboard for Kick-off meeting and SOW clarifications
				- Clients on-board for Kick-Off meeting
				- Vessel induction fo Client Representative
				- Wet testing and Pulse test of HF Sparker

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**002**	**Date**	**Tuesday, 8 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	24:00	24.00	14.00	38.00
CAL	Calibrations	00:00	0.00	0.00	0.00
TR	Transit to/from work site	00:00	0.00	0.00	0.00
OPS.GEO	Operational Geophysical	00:00	0.00	0.00	0.00
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	0.00	0.00
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**14.00**	**38.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
0000	1200	Completeion of Sparker Wet tests and Pulse tests. Delivery of Compass birds for streamer.
1200	1400	Departure from Scheveningen
1400	2400	Commence in-sea calibrations and verifications.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**002**	**Date**	**Tuesday, 8 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	0
Transit etc km today	0	**Transit etc km to date**	0	**Percentage to date**	0.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1018	E	3	-		In Port
06:00	1020	NW	3	-		In Port
12:00	1022	W	3	-		In Port
18:00	1021	S	2	-		In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; I. Josselin		
	Client: Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord		

DOR No.	**002**	**Date**	**Tuesday, 8 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction	1	8	No	Vessel Coordination Meeting		0	Yes
Toolbox Talks		2	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		0	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	107.6	0.8	0.0	106.8
Lubes (Ltr)	580.0	0.0	0.0	580.0
Water (cu.m)	96.0	6.0	0.0	90.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative onboard Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**003**	**Date**	**Wednesday, 9 March 2016**

Diary Of Events

Code	From	To	Period	Description
M/D	00:00	19:00	19:00	Continue Mobilistioan alongside:
				- Wet test and Pulse Test of 540 tip and LF sparkers
				- Test of SSS and Piggyback Magnetomoeter
				- Abandon Ship Drill - Crew Mustered to Quayside (Immersion Suits Worn as Practise).
				- Fire Drill - Marine Crew simulated situation of fire in Seismic Compressor Room.
TR	19:00	20:55	01:55	Departure from Scheveningen - Transit to survey area
CAL	20:55	21:10	00:15	Toolbox Talks: Deployment of SVP and MBES Moonpool
CAL	21:10	21:30	00:20	MBES Moonpool Deployed, Sound Velocity Profile
CAL	21:30	21:40	00:10	Toolbox Talk: Deployment of UHRS Streamer, Sparker Source (540 Tip), Single Ch Hydrophone
CAL	21:40	22:15	00:35	Deployment of Streamer
CAL	22:15	23:59	01:44	Streamer Balance and Noise tests
CAL	23:59	24:00	00:01	Deployment of 540 Tip Sparker - continued

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**003**	**Date**	**Wednesday, 9 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	19:00	19.00	38.00	57.00
CAL	Calibrations	03:05	3.08	0.00	3.08
TR	Transit to/from work site	01:55	1.92	0.00	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	0.00	0.00
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	0.00	0.00
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**38.00**	**62.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
0000	0900	Continue In sea tests of UHRS setup 540 tip Sparker
0900	1300	Patch Test
1300	1800	In sea Tests of Dual Sparker Option
1800	2400.	Asses Sparker acquisition options, further tests if necessary to optimise acquisition, else commence Geophysical lines whilst options are assessed.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; I. Josselin	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**003**	**Date**	**Wednesday, 9 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	0
Transit etc km today	30	**Transit etc km to date**	30	**Percentage to date**	0.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1020	S	2	-		In Port
06:00	1014	SE	3	-		In Port
12:00	1011	ESE	3	-		In Port
18:00	1013	ESE	4/5	-		In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baraskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; I. Josselin		
	Client: Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord		

DOR No.	**003**	**Date**	**Wednesday, 9 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting		0	Yes
Toolbox Talks	3	5	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill	2	2	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Deployment of MBES Moonpool	3
Deployment of Sound Velocity Profile	3
Deployment of UHRS Streamer, Sparker Source (540 Tip), Single Ch Hydrophone	7

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	106.8	1.5	0.0	105.3
Lubes (Ltr)	580.0	0.0	1040.0	1620.0
Water (cu.m)	90.0	5.0	0.0	85.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative onboard Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs

Personnel:	**Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)
	Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)
	Client:	A. Fleet 29
Equipment		Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord

DOR No.	**004**	**Date**	**Thursday, 10 March 2016**

Diary Of Events

Code	From	To	Period	Description
CAL	00:00	03:30	03:30	Continue deployment of 540 Tip Sparker, adjustment of layback. Setting offsets.
CAL	03:30	08:34	05:04	Testing and Mobilisation tests for 540 tip sparker and UHR streamer
CAL	08:34	08:47	00:13	Toolbox Talk: Recovery of UHRS Streamer, Sparker Source (540 Tip), Single Ch. Hydrophone
CAL	08:47	09:46	00:59	Sparker, Single Ch. Hydrophone and Streamer Recovered.
CAL	09:46	09:55	00:09	Toolbox Talk: SVP
CAL	09:55	10:20	00:25	Sound Velocity Profile
CAL	10:20	12:30	02:10	MBES Patch Test
CAL	12:30	12:40	00:10	Toolbox Talk: Deployment and Recovery of SSS and Piggyback magnetometer
CAL	12:40	15:04	02:24	SSS and Magnetometer Deployed, Weight of Mag altered to achieve depth separation of SSS and Mag, (Mag Alt< 7m)
OPS.GEO	15:04	17:33	02:29	SOL: **FPMain43** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:33	17:56	00:23	Line Turn
OPS.GEO	17:56	21:08	03:12	SOL: **FPMain44** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: Deployment of Dual Sparkers and Single Ch. Hydrophone
				Dual Sparkers and Single Ch. Hydrophone Deployed, Testing Triggering to Dual sparker setup.
OPS.GEO	21:08	21:31	00:23	Line Turn
OPS.GEO	21:31	24:00	02:29	SOL: **FPMain45** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (23:15)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**004**	**Date**	**Thursday, 10 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	15:04	15.07	3.08	18.15
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	08:56	8.93	0.00	8.93
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	0.00	0.00
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**62.00**	**86.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue Geophysical survey operations whilst solving Trigger options for UHRS and Single channel sparker.
		Once stable triggering achieved resume UHRS mobilisation tests and complete Seismic option comparison.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**004**	**Date**	**Thursday, 10 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	56.5	**Survey Lines km to date**	57	**Total Project km**	2819
Transit etc km today	30	**Transit etc km to date**	60	**Percentage to date**	2.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1017	ESE	2	0.5		
06:00	1024	E	3	0.5		
12:00	1027	E	4	0.5		
18:00	1030	NE	3	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord		

DOR No.	**004**	**Date**	**Thursday, 10 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	1	Yes
Toolbox Talks	5	10	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		2	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Recovery of UHRS Streamer, Sparker Source (540 Tip), Single Ch. Hydrophone	5
Sound Velocity Profile	3
Deployment of SSS and Piggyback Magnetometer	4
Deployment of Dual Sparkers and Single Ch Hydrophone	4
Sound Velocity Profile (Underway)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	105.3	1.8	0.0	103.5
Lubes (Ltr)	1620.0	30.0	0.0	1590.0
Water (cu.m)	85.0	5.0	1.0	81.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Triggering problems experienced with dual sparker option, triggering works well independently on each system, but noisy when synchronised or flip-flop. Working to separate and isolate triggering to avoid noise. Once Stable triggering of Sparkers, Streamer and Single Ch. Hydrophone are achieved seismic comparison test can be completed.	
Party Chief Signature	**Client Representative Signature**
 Toby Harrison - Party Chief - Fugro Pioneer	 Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs

Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)
Client:	A. Fleet 29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone
E-Mail Recipients Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA
Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord

DOR No.	**005**	**Date**	**Friday, 11 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:27	00:27	Continue: **FPMain45** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	00:27	01:01	00:34	Line Turn
OPS.GEO	01:01	03:35	02:34	SOL: **FPMain46** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:35	03:50	00:15	Line Turn
OPS.GEO	03:50	06:03	02:13	SOL: **FPMain41** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:03	06:27	00:24	Line Turn
OPS.GEO	06:27	08:44	02:17	SOL: **FPMain42** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), Toolbox Talk: SVP
OPS.GEO	08:44	09:11	00:27	Line Turn and Sound Velocity Profile (08:50)
OPS.GEO	09:11	11:55	02:44	SOL: **FPMain39** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:55	12:39	00:44	Line Turn
OPS.GEO	12:39	14:45	02:06	SOL: **FPMain40** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: Recovery of 100 Tip Sparker and Single Ch Hydrophone, adjust balance
				Sparker And Hydrophone Recovered and redeployed, balancing.
OPS.GEO	14:45	15:20	00:35	Line Turn
OPS.GEO	15:20	17:05	01:45	SOL: **FPMain32** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:05	17:46	00:41	Line Turn
DT	17:46	19:40	01:54	SOL: FPMain31 - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger) - Starfix NG Stopped responding, Data corrupted: **DNP**
DT	19:40	20:13	00:33	Line Turn, reboot of Starfix NG.
OPS.GEO	20:13	22:17	02:04	SOL: **FPMain38** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (21:15)
OPS.GEO	22:17	22:33	00:16	Line Turn
OPS.GEO	22:33	24:00	01:27	SOL: **FPMain33** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**005**	**Date**	**Friday, 11 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	18.15	18.15
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	21:33	21.55	8.93	30.48
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	02:27	2.45	0.00	2.45
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**86.00**	**110.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	08:00	Continue Geophysical Survey operations overnight
08:00	13:00	Deploy streamer in daylight, to assist in setting balance of head of streamer
		Test streamer balance and source tow depth whilst continue geophysical operations
13:00	24:00	Complete outstanding UHRS mobilisation tests and Acquisition method comparison

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**005**	**Date**	**Friday, 11 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	137.7	**Survey Lines km to date**	194	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	6.89%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1033	ENE	3	0.5		
06:00	1033	ENE	3	0.5		
12:00	1037	NE	4	0.5		
18:00	1037	NE	3	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord		

DOR No.	**005**	**Date**	**Friday, 11 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	2	Yes
Toolbox Talks	3	13	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		2	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Recovery and Deployment of 100 Tip Sparker and Single Ch Hydrophone, Balancing	3
Sound Velocity Profile, Underway (2)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	103.5	1.8	0.0	101.7
Lubes (Ltr)	1590.0	0.0	0.0	1590.0
Water (cu.m)	81.0	4.0	1.0	78.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Triggering of Single channel and Multichannel Hydrophones, both synchronised and flip-flop arrangement has been rectified. UHRS Streamer to be deployed in daylight to assist balancing and setup, data to be checked during Geophysical lines prior to completion of outstanding Mobilisation tests and Sparker system comparison.	
Party Chief Signature	**Client Representative Signature**
 Toby Harrison - Party Chief - Fugro Pioneer	 Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs

Personnel:	**Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)
	Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)
	Client:	A. Fleet 29
Equipment		Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord

DOR No.	**006**	**Date**	**Saturday, 12 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:13	00:13	Continue: **FPMain33** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	00:13	00:39	00:26	Line Turn
OPS.GEO	00:39	02:53	02:14	SOL: **FPMain37** - Hdg: 25° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:53	03:15	00:22	Line Turn
OPS.GEO	03:15	05:19	02:04	SOL: **FPMain34** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:19	05:34	00:15	Line Turn
OPS.GEO	05:34	07:35	02:01	SOL: **FPMain36** - Hdg: 25° - (SBES, MBES, SSS, Mag, Pinger), Toolbox Talk: SVP
OPS.GEO	07:35	08:03	00:28	Line Turn and Sound Velocity Profile (07:40)
OPS.GEO	08:03	10:09	02:06	SOL: **FPMain31A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger) - Rerun due to NG failure on first attempt.
				Toolbox Talk: Deployment of UHRS Streamer
				UHRS Streamer Deployed during line, checking seismic data during Geophysical lines.
OPS.GEO	10:09	10:39	00:30	Line Turn
OPS.GEO	10:39	12:48	02:09	SOL: **FPMain35** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:48	13:10	00:22	Line Turn
OPS.GEO	13:10	14:52	01:42	SOL: **FPMain28** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	14:52	15:16	00:24	Line Turn
OPS.GEO	15:16	17:02	01:46	SOL: **FPMain30** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (15:30)
OPS.GEO	17:02	17:28	00:26	Line Turn
OPS.GEO	17:28	18:34	01:06	SOL: **FPMain25** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
CAL	18:34	19:08	00:34	Line Stopped for UHRS Mobilisation tests and Source Comparison
CAL	19:08	24:00	04:52	UHRS Mobilisation tests and Source comparison.
				Toolbox Talk: Recovery of 360 and 100 Tip Sparker, Deployment of 540 Tip Sparker

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**006**	**Date**	**Saturday, 12 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	05:26	5.43	18.15	23.58
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	18:34	18.57	30.48	49.05
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	2.45	2.45
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**110.00**	**134.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	04:00	Continue and Complete UHRS Source Comparison Tests.
04:00	24:00	Recover Streamer and resume Geophysical survey operaitons
		Processing of UHRS tests and Source comparison Data, Production of Field Memo to support selection of UHRS Acquisition methodology.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**006**	**Date**	**Saturday, 12 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	109.0	**Survey Lines km to date**	303	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	10.76%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109	12-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1038	E	3	0.5		
06:00	1038	ESE	3	0.5		
12:00	1039	ENE	3	0.5		
18:00	1039	NNE	2	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord		

DOR No.	**006**	**Date**	**Saturday, 12 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	3	Yes
Toolbox Talks	4	17	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	1	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		2	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Deployment of UHRS Streamer	4
Recovery of 360 and 100 Tiop Sparkers, Deployment of 540 Tip Sparker.	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	101.7	1.7	0.0	100.0
Lubes (Ltr)	1590.0	0.0	0.0	1590.0
Water (cu.m)	78.0	5.0	2.0	75.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC Card: Dumbbells not secured in Gym. - Spoken to crew, all to be reminded in next safety meeting.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs

Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)
Client:	A. Fleet 29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA
	Client: Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord

DOR No.	**007**	**Date**	**Sunday, 13 March 2016**

Diary Of Events

Code	From	To	Period	Description
CAL	00:00	04:43	04:43	Continue: UHRS Mobilisation tests and Source comparison.
CAL	04:43	05:20	00:37	Toolbox Talk: Recovery of 540 Tip Sparker, UHRS Streamer and Single channel hydrophone.
CAL	05:20	06:15	00:55	Recovery of 540 Tip Sparker, UHRS Streamer and Single channel hydrophone.
OPS.GEO	06:15	06:20	00:05	Toolbox Talk: SVP
OPS.GEO	06:20	06:36	00:16	Sound Velocity Profile (06:20)
DT	06:36	08:49	02:13	SSS lost communication: unable to resume geophysical survey, rectifying fault.
OPS.GEO	08:49	09:51	01:02	SOL: **FPMain25M** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), Toolbox Talk: SVP
OPS.GEO	09:51	10:06	00:15	Line Turn
OPS.GEO	10:06	11:59	01:53	SOL: **FPMain27** - Hdg: 25° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:59	12:08	00:09	Line Turn
OPS.GEO	12:08	13:42	01:34	SOL: **FPMain29** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	13:42	13:59	00:17	Line Turn
OPS.GEO	13:59	15:46	01:47	SOL: **FPMain26** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	15:46	15:55	00:09	Line Turn
OPS.GEO	15:55	17:20	01:25	SOL: **FPMain24** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger) - Starfix NG Stopped responding
DT	17:20	17:45	00:25	Line Turn to restart
OPS.GEO	17:45	18:28	00:43	SOL: **FPMain24M** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:28	18:40	00:12	Line Turn
OPS.GEO	18:40	20:05	01:25	SOL: **FPMain23** - Hdg: 25° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (19:10)
OPS.GEO	20:05	20:19	00:14	Line Turn
OPS.GEO	20:19	22:10	01:51	SOL: **FPMain22** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:10	22:27	00:17	Line Turn
OPS.GEO	22:27	23:53	01:26	SOL: **FPMain21** - Hdg: 25° - (SBES, MBES, SSS, Mag, Pinger)
DT	23:53	24:00	00:07	SSS fish pulled into tow block on recovery for line turn, USBL beacon lost.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**007**	**Date**	**Sunday, 13 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	06:15	6.25	23.58	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	15:00	15.00	49.05	64.05
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	02:45	2.75	2.45	5.20
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**134.00**	**158.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	04:00	Release SSS from tow block and inspect system for damage.
		Setup and prepare for re-deployment, replace USBL beacon with spare.
04:00	10:00	Resume and continue geophysical survey operations.
		Submit memo supporting UHRS comparison tests
10:00	12:00	Discuss and agree methodology to be used for UHRS acquisition on-board with client representative
12:00	24:00	Commence and continue UHRS operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord	

DOR No.	**007**	**Date**	**Sunday, 13 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	91.0	**Survey Lines km to date**	394	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	13.98%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109	12-Mar	0								
13-Mar	91	13-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1040	ESE	3	0.5		
06:00	1042	S	2	0.5		
12:00	1043	ESE	4/5	1.0		
18:00	1042	NNE	3	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Bastian Burger; Frank van Erp; Ruud de Bruijne, Guido Vink, Wouter Boumans, RVO Site Investigations, Rein de Wolff, Saskia van Loozenoord		

DOR No.	**007**	**Date**	**Sunday, 13 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	4	Yes
Toolbox Talks	3	20	Yes	Safety Meeting		0	Yes
Reportable Incident	1	1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	2	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		2	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Recovery of UHRS Streamer, 540 Tip sparker and Single Channel Hydrophone	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	100.0	1.4	0.0	98.6
Lubes (Ltr)	1590.0	80.0	0.0	1510.0
Water (cu.m)	75.0	5.0	1.0	71.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Incident: Snagging of SSS in tow block resulting in loss of USBL beacon. 1 x HOC Card: Warning strobe on PS Winch flashing when winch not operating.	
Party Chief Signature	**Client Representative Signature**
 Toby Harrison - Party Chief - Fugro Pioneer	 Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs

Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)
Client:	A. Fleet 29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone

E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord

DOR No.	**008**	**Date**	**Monday, 14 March 2016**

Diary Of Events

Code	From	To	Period	Description
DT	00:00	00:10	00:10	SSS fish pulled into tow block on recovery for line turn, USBL beacon lost.
DT	00:10	00:42	00:32	Toolbox Talk: Removal of SSS from Tow Block, exchange of tow block, and redeploy SSS, SVP
DT	00:42	02:20	01:38	Removing SSS from Tow Block, changing tow block, checking SSS tow arm and termination for damage.
DT	02:20	02:35	00:15	SSS redeployed
OPS.GEO	02:35	02:52	00:17	Sound Velocity Profile
OPS.GEO	02:52	04:17	01:25	SOL: **FPMain20** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:17	04:29	00:12	Line Turn
OPS.GEO	04:29	06:08	01:39	SOL: **FPMain19** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:08	06:21	00:13	Line Turn
OPS.GEO	06:21	08:03	01:42	SOL: **FPMain18** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	08:03	08:16	00:13	Line Turn
OPS.GEO	08:16	09:35	01:19	SOL: **FPMain17** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	09:35	09:47	00:12	Line Turn
OPS.GEO	09:47	11:16	01:29	SOL: **FPMain16** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:16	11:28	00:12	Line Turn
OPS.GEO	11:28	12:51	01:23	SOL: **FPMain15** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:51	13:03	00:12	Line Turn
OPS.GEO	13:03	14:10	01:07	SOL: **FPMain14** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	14:10	14:25	00:15	Line Turn
OPS.GEO	14:25	15:40	01:15	SOL: **FPMain13** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	15:40	15:50	00:10	Line Turn
OPS.GEO	15:50	16:52	01:02	SOL: **FPMain12** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (16:06)
OPS.GEO	16:52	17:01	00:09	Line Turn
OPS.GEO	17:01	18:07	01:06	SOL: **FPMain11** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:07	18:17	00:10	Line Turn
OPS.GEO	18:17	19:19	01:02	SOL: **FPMain10** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	19:19	19:32	00:13	Line Turn
OPS.GEO	19:32	20:22	00:50	SOL: **FPMain09** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:22	20:35	00:13	Toolbox Talk: Recovery of SSS and Mag (changing back to PS winch in preparation for UHRS)
OPS.GEO	20:35	22:15	01:40	SSS recovered, changed to Port Side Winch and re-deployed.
OPS.GEO	22:15	23:00	00:45	SOL: **FPMain08** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	23:00	23:18	00:18	Line Turn, Toolbox Talk: Streamer deployment
OPS.GEO	23:18	24:00	00:42	SOL: **FPMain07** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger) Streamer deployed on line.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**008**	**Date**	**Monday, 14 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	21:25	21.42	64.05	85.47
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	02:35	2.58	5.20	7.78
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**158.00**	**182.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	03:00	Continue geophysical survey operations, deploy sparker
		Commence UHRS operations once sea conditions reduce.
03:00	24:00	Continue UHRS operations whilst weather conditions allow.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**008**	**Date**	**Monday, 14 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	118.1	**Survey Lines km to date**	512	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	18.17%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1042	ENE	5	1.0		
06:00	1042	E	5	1.0		
12:00	1042	ESE	5	1.0		
18:00	1040	NNE	5	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**008**	**Date**	**Monday, 14 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	5	Yes
Toolbox Talks	5	25	Yes	Safety Meeting		0	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	3	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill	1	3	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Removal of SSS from Tow Block, exchange of tow block, and redeploy SSS	4
Recovery of SSS and Redeploy (exchange winch)	4
Deployment of Streamer	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	98.6	1.7	0.0	96.9
Lubes (Ltr)	1510.0	0.0	0.0	1510.0
Water (cu.m)	71.0	5.0	1.0	67.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC Card: Suggestion: Installation of designated fire fighters equipment cabinets to save time when dressing and preparing for fire fighting. Comparison of UHRS Sparker tests discussed with Client Representative agreed 540-Tip sparker to be most suitable solution. Emergency Resonse Drill: all contacts responded in good time.	
Party Chief Signature	**Client Representative Signature**
 Toby Harrison - Party Chief - Fugro Pioneer	 Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs

Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)
Client:	A. Fleet 29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone

E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord

DOR No.	**009**	**Date**	**Tuesday, 15 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:02	00:02	continue **FPMain07** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger) Streamer deployed on line checking noise and balance.
OPS.GEO	00:02	00:33	00:31	Line Turn
OPS.GEO	00:33	01:10	00:37	SOL: **FPMain06** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), Toolbox Talk: Deployment of Sparker
OPS.GEO	01:10	02:49	01:39	Deployment of Sparker
OPS.MCS	02:49	03:52	01:03	SOL: **FPSeis06** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	03:52	04:20	00:28	Line Turn
OPS.MCS	04:20	05:20	01:00	SOL: **FPSeis05** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	05:20	06:11	00:51	Line Turn
OPS.MCS	06:11	07:29	01:18	SOL: **FPSeis08** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	07:29	07:59	00:30	Line Turn
OPS.MCS	07:59	08:38	00:39	SOL: **FPSeis04** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	08:38	09:11	00:33	Line Turn
OPS.MCS	09:11	09:50	00:39	SOL: **FPSeis01** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (09:25)
OPS.MCS	09:50	10:08	00:18	Line Turn
OPS.MCS	10:08	10:22	00:14	SOL: **FPSeis01** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	10:22	10:50	00:28	Line Turn
OPS.MCS	10:50	11:20	00:30	SOL: **FPSeis02** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	11:20	11:58	00:38	Line Turn
OPS.MCS	11:58	13:06	01:08	SOL: **FPSeis07** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	13:06	13:55	00:49	Line Turn
OPS.MCS	13:55	15:49	01:54	SOL: **FPSeis10** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	15:49	16:21	00:32	Line Turn
OPS.MCS	16:21	17:41	01:20	SOL: **FPSeis09** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	17:41	18:15	00:34	Line Turn
OPS.MCS	18:15	19:45	01:30	SOL: **FPSeis12** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker),
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (19:40)
OPS.MCS	19:45	22:35	02:50	Line Turn
OPS.MCS	22:35	24:00	01:25	SOL: **FPSeis13** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**009**	**Date**	**Tuesday, 15 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	02:49	2.82	85.47	88.28
OPS.MCS	Operational Multichannel Seismic	21:11	21.18	0.00	21.18
DT	Equipment Downtime	00:00	0.00	7.78	7.78
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**182.00**	**206.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	09:00	Continue UHRS operations whilst weather conditons allow.
09:00	24:00	Resume Geophysical operations whilst weather conditions unsuitable for UHRS.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**009**	**Date**	**Tuesday, 15 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	88.1	**Survey Lines km to date**	600	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	21.30%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1039	NE	4	0.5		
06:00	1038	NE	3	0.5		
12:00	1038	NE	4	0.5		
18:00	1036	NNE	4	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**009**	**Date**	**Tuesday, 15 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	6	Yes
Toolbox Talks	3	28	Yes	Safety Meeting		0	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	4	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		3	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Deployment of Sparker	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	96.9	1.8	0.0	95.1
Lubes (Ltr)	1510.0	0.0	0.0	1510.0
Water (cu.m)	67.0	5.0	2.0	64.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC Card: Suggestion: Install sign (High Voltage) and barrier to Sparker power supply in aft-store when in use.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**010**	**Date**	**Wednesday, 16 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:10	00:10	continue: **FPSeis13** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	00:10	00:46	00:36	Line Turn
OPS.MCS	00:46	02:39	01:53	SOL: **FPSeis14** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	02:39	03:12	00:33	Line Turn
OPS.MCS	03:12	04:23	01:11	SOL: **FPSeis16** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker) UHRS Softwarre crash
DT	04:23	05:03	00:40	Line Turn to resume line
OPS.MCS	05:03	06:22	01:19	SOL: **FPSeis16M** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	06:22	06:55	00:33	Line Turn
OPS.MCS	06:55	09:00	02:05	SOL: **FPSeis15** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger, UHRS Streamer, 540-Tip sparker)
OPS.MCS	09:00	09:15	00:15	Toolbox Talk: Recovery of Streamer, Sparker and Single Ch Hydrophone.
OPS.MCS	09:15	09:42	00:27	Streamer, Sparker and Single Channel Hydrophone Recovered
OPS.MCS	09:42	09:50	00:08	Toolbox Talk: SVP
OPS.GEO	09:50	10:11	00:21	Sound Velocity Profile (09:50)
OPS.GEO	10:11	12:51	02:40	SOL: **FPMain47** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:51	13:33	00:42	Line Turn
OPS.GEO	13:33	14:38	01:05	SOL: **FPMainNorth11** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Starfix NG Crash online
OPS.GEO	14:38	14:52	00:14	Line Turn
OPS.GEO	14:52	15:34	00:42	SOL: **FPMainNorth13** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	15:34	15:38	00:04	Line Turn
OPS.GEO	15:38	16:10	00:32	SOL: **FPMainNorth15** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	16:10	16:23	00:13	Line Turn
DT	16:23	17:04	00:41	SOL: **FPMainNorth11I (Infill)** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger) Infill required due to NG crash on first attempt.
DT	17:04	17:09	00:05	Line Turn
OPS.GEO	17:09	17:42	00:33	SOL: **FPMainNorth14** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:42	17:50	00:08	Line Turn
OPS.GEO	17:50	18:27	00:37	SOL: **FPMainNorth12** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:27	18:34	00:07	Line Turn
OPS.GEO	18:34	19:05	00:31	SOL: **FPMainNorth16** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	19:05	19:15	00:10	Line Turn
OPS.GEO	19:15	19:46	00:31	SOL: **FPMainNorth17** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile Performed underway (19:45)
OPS.GEO	19:46	19:51	00:05	Line Turn
OPS.GEO	19:51	20:18	00:27	SOL: **FPMainNorth19** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:18	20:28	00:10	Line Turn
OPS.GEO	20:28	20:58	00:30	SOL: **FPMainNorth18** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:58	21:03	00:05	Line Turn
OPS.GEO	21:03	21:31	00:28	SOL: **FPMainNorth20** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	21:31	21:40	00:09	Line Turn
OPS.GEO	21:40	22:03	00:23	SOL: **FPMainNorth21** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:03	22:09	00:06	Line Turn
OPS.GEO	22:09	22:34	00:25	SOL: **FPMainNorth23** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:34	22:44	00:10	Line Turn
OPS.GEO	22:44	23:06	00:22	SOL: **FPMainNorth22** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	23:06	23:12	00:06	Line Turn
OPS.GEO	23:12	23:30	00:18	SOL: **FPMainNorth25** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
DT	23:30	24:00	00:30	Starfix NG Crash online - Restart Systems

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**010**	**Date**	**Wednesday, 16 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	12:54	12.90	88.28	101.18
OPS.MCS	Operational Multichannel Seismic	09:10	9.17	21.18	30.35
DT	Equipment Downtime	01:56	1.93	7.78	9.72
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**206.00**	**230.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	08:00	Continue Geophysical operations
08:00	10:00	Reconfigure Aft Deck Tow, (attempt to prevent noise on Mag and SSS from 100-Tip Sparker)
10:00	11:00	Deploy Streamer, Sparkers and Single Channel Hydrophone.
11:00	24:00	Resume UHRS Survey operations.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**010**	**Date**	**Wednesday, 16 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	107.0	**Survey Lines km to date**	707	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	25.09%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0								
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1036	NE	4/5	1.0		
06:00	1037	ENE	4/5	1.0		
12:00	1038	ENE	5	1.0		
18:00	1038	ENE	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**010**	**Date**	**Wednesday, 16 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	7	Yes
Toolbox Talks	3	31	Yes	Safety Meeting		0	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	5	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		3	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Recovery of Sparker, Sreamer and Single Channel Hydrophone	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	95.1	1.8	0.0	93.3
Lubes (Ltr)	1510.0	0.0	0.0	1510.0
Water (cu.m)	64.0	5.0	1.0	60.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC Card: The Emergency stop for Seismic compressors in the online room has no cover and could be activated accidentally. Suggest to install a cover or surround similar to other emergency stop buttons.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**011**	**Date**	**Thursday, 17 March 2016**

Diary Of Events

Code	From	To	Period	Description
DT	00:00	00:59	00:59	Starfix NG Crash online - Restart Systems
OPS.GEO	00:59	01:21	00:22	SOL: **FPMainNorth25A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:21	01:29	00:08	Line Turn
OPS.GEO	01:29	01:48	00:19	SOL: **FPMainNorth27** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:48	01:56	00:08	Line Turn
OPS.GEO	01:56	02:19	00:23	SOL: **FPMainNorth24** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:19	02:26	00:07	Line Turn
OPS.GEO	02:26	02:46	00:20	SOL: **FPMainNorth26** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:46	02:54	00:08	Line Turn
OPS.GEO	02:54	03:16	00:22	SOL: **FPMainNorth28** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:16	03:20	00:04	Line Turn
OPS.GEO	03:20	03:38	00:18	SOL: **FPMainNorth29** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:38	03:46	00:08	Line Turn
OPS.GEO	03:46	04:05	00:19	SOL: **FPMainNorth30** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:05	04:08	00:03	Line Turn
OPS.GEO	04:08	04:25	00:17	SOL: **FPMainNorth31** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:25	04:33	00:08	Line Turn
OPS.GEO	04:33	04:50	00:17	SOL: **FPMainNorth32** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:50	04:54	00:04	Line Turn
OPS.GEO	04:54	05:08	00:14	SOL: **FPMainNorth33** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:08	05:16	00:08	Line Turn
OPS.GEO	05:16	05:33	00:17	SOL: **FPMainNorth34** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:33	05:37	00:04	Line Turn
OPS.GEO	05:37	05:50	00:13	SOL: **FPMainNorth35** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:50	05:57	00:07	Line Turn
OPS.GEO	05:57	06:11	00:14	SOL: **FPMainNorth36** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:11	06:15	00:04	Line Turn
OPS.GEO	06:15	06:26	00:11	SOL: **FPMainNorth37** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:26	06:35	00:09	Line Turn
OPS.GEO	06:35	06:49	00:14	SOL: **FPMainNorth38** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:49	07:01	00:12	Line Turn
OPS.GEO	07:01	07:13	00:12	SOL: **FPMainNorth40** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	07:13	07:22	00:09	Line Turn
OPS.GEO	07:22	07:36	00:14	SOL: **FPMainNorth39** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	07:36	08:44	01:08	Line Turn: Toolbox Talk: SVP
				Sound Velocity Profile (08:25)
OPS.GEO	08:44	09:52	01:08	SOL: **FPMainNorth10** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	09:52	10:04	00:12	Line Turn
OPS.GEO	10:04	11:21	01:17	SOL: **FPMainNorth09** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:21	11:31	00:10	Line Turn
DT	11:31	11:43	00:12	SOL: **FPMainNorth08** - Hdg: 205° - Line Aborted, SSS lost communications
DT	11:43	12:07	00:24	Line Turn
OPS.GEO	12:07	13:18	01:11	SOL: **FPMainNorth08A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: Deployment of Sparkers, Streamer dn Sincgle Channel Hydrophone
				100-Tip Sparker and Single Ch Hydrophone Deployed
OPS.GEO	13:18	13:33	00:15	Line Turn
DT	13:33	14:43	01:10	SOL: **FPMainNorth07** - Hdg: 205° - Line Aborted, SSS lost communications
				540-Tip Sparker and Multi Channel Streamer deployed.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**011**	**Date**	**Thursday, 17 March 2016**

Diary Of Events Continued...

Code	From	To	Period	Description
DT	14:43	15:20	00:37	Line Turn - Toolbox Talk: SSS and Mag Recovery and Deployment
				SSS and Mag recovered, investigationg connection loss fault
OPS.GEO	15:20	16:52	01:32	SOL: **FPMainNorth06** - Hdg: 025° - (SBES, MBES, Pinger) No SSS or Mag on line
				SSS and Mag deployed
OPS.GEO	16:52	17:06	00:14	Line Turn
OPS.MCS	17:06	17:45	00:39	SOL: **FPMainSeis36** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)
DT	17:45	17:48	00:03	Line Stopped, Navigation Fault
OPS.MCS	17:48	20:30	02:42	SOL: **FPMainSeis36M** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh
OPS.MCS	20:30	21:05	00:35	Line Turn
OPS.MCS	21:05	24:00	02:55	SOL: **FPMainSeis35** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**011**	**Date**	**Thursday, 17 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	13:44	13.73	101.18	114.92
OPS.MCS	Operational Multichannel Seismic	06:51	6.85	30.35	37.20
DT	Equipment Downtime	03:25	3.42	9.72	13.13
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**230.00**	**254.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS operations, whilst weather conditions allow
		Resume Geophysical operations if Weather prevents UHRS acquisition.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**011**	**Date**	**Thursday, 17 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	117.1	**Survey Lines km to date**	825	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	29.25%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117	17-Mar	0				
08-Mar	0	08-Mar	0								
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1039	ENE	4	1.0		
06:00	1039	ENE	4	0.5		
12:00	1039	NE	3	0.5		
18:00	1036	NNE	5	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**011**	**Date**	**Thursday, 17 March 2016**

Health, Safety and Environmental Summary							
Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	8	Yes
Toolbox Talks	4	35	Yes	Safety Meeting		0	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	6	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		3	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today	
Topic Discussed	**Nr. Of Attendees**
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Deployment of Sparkers, Streamer and Hydrophone	4
Recovery and Deployment of SSS and Mag	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs				
Type#	**O.B. at 00:00 Hrs**	**Consumed Today**	**Received / Made Today**	**R.O.B. At 24:00 Hrs**
Fuel (cu.m)	93.3	1.7	0.0	91.6
Lubes (Ltr)	1510.0	20.0	0.0	1490.0
Water (cu.m)	60.0	5.0	1.0	56.0

PARTY CHIEF COMMENTS	**CLIENT REPRESENTATIVE COMMENTS**
1 x HOC Card: Hazard Tape used for marking wet paint on steps was installed at low height creating a trip hazard.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**012**	**Date**	**Friday, 18 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:29	00:29	continue: **FPMainSeis35** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh
OPS.MCS	00:29	00:48	00:19	Line Turn
OPS.MCS	00:48	04:47	03:59	SOL: **FPMainSeis33** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)
OPS.MCS	04:47	05:18	00:31	Line Turn
OPS.MCS	05:18	09:16	03:58	SOL: **FPMainSeis34** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)
OPS.MCS	09:16	09:34	00:18	Line Turn
OPS.MCS	09:34	13:16	03:42	SOL: **FPMainSeis31** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (12:45)
				Vessel Safety Meeting
OPS.MCS	13:16	13:40	00:24	Line Turn
OPS.MCS	13:40	17:10	03:30	SOL: **FPMainSeis32** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)
OPS.GEO	17:10	17:28	00:18	Toolbox Talk: Recovery of Streamer, Sparker and Single Channel Hydrophone
OPS.GEO	17:28	18:19	00:51	Line Turn, Recovery of Streamer, Sparker, Single channel Hydrophone
OPS.GEO	18:19	19:31	01:12	SOL: **FPMainNorth06A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	19:31	19:46	00:15	Line Turn
OPS.GEO	19:46	21:09	01:23	SOL: **FPMainNorth05** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	21:09	21:17	00:08	Line Turn
OPS.GEO	21:17	22:30	01:13	SOL: **FPMainNorth04** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:30	22:44	00:14	Line Turn
OPS.GEO	22:44	23:58	01:14	SOL: **FPMainNorth03** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	23:58	24:00	00:02	Line Turn

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**012**	**Date**	**Friday, 18 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	06:50	6.83	114.92	121.75
OPS.MCS	Operational Multichannel Seismic	17:10	17.17	37.20	54.37
DT	Equipment Downtime	00:00	0.00	13.13	13.13
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**254.00**	**278.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue Geophysical Survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**012**	**Date**	**Friday, 18 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	144.0	**Survey Lines km to date**	969	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	34.36%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144	18-Mar	0				
09-Mar	0	09-Mar	30								
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1035	NNE	4	0.5		
06:00	1033	NNW	4	0.5		
12:00	1033	NNE	4	0.5		
18:00	1031	N	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**012**	**Date**	**Friday, 18 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	9	Yes
Toolbox Talks	2	37	Yes	Safety Meeting	1	1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		6	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		3	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway	3
Recovery of Sparkers, Streamer and Hydrophone	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	91.6	1.7	0.0	89.9
Lubes (Ltr)	1490.0	15.0	0.0	1475.0
Water (cu.m)	56.0	5.0	1.0	52.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**013**	**Date**	**Saturday, 19 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:06	00:06	Line Turn
OPS.GEO	00:06	01:18	01:12	SOL: **FPMainNorth02** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), Toolbox Talk: SVP
OPS.GEO	01:18	01:47	00:29	Line Turn and Sound Velocity Profile (01:35)
OPS.GEO	01:47	02:35	00:48	SOL: **FPMainNorth01** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:35	02:47	00:12	Line Turn
OPS.GEO	02:47	02:55	00:08	SOL: **FPMainNorthXL7** - Hdg: 119° - (SBES, MBES, SSS, Mag, Pinger), Line aborted heavy rolling across swell.
OPS.GEO	02:55	03:20	00:25	Line Turn
OPS.GEO	03:20	03:53	00:33	SOL: **FPMainNorth01M** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:53	04:03	00:10	Line Turn
OPS.GEO	04:03	06:43	02:40	SOL: **FPMain60** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:43	07:06	00:23	Line Turn
OPS.GEO	07:06	07:53	00:47	SOL: **FPMainSouth11** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger), Weather affecting data quality
OPS.GEO	07:53	08:07	00:14	Line Turn
OPS.GEO	08:07	08:52	00:45	SOL: **FPMainSouth10** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	08:52	09:46	00:54	Line Turn
OPS.GEO	09:46	10:30	00:44	SOL: **FPMainSouth11A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	10:30	11:10	00:40	Line Turn
OPS.GEO	11:10	11:22	00:12	SOL: **FPMainSouth24** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	11:22	11:45	00:23	Line Turn
OPS.GEO	11:45	11:54	00:09	SOL: **FPMainSouth25** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	11:54	12:19	00:25	Line Turn
OPS.GEO	12:19	12:33	00:14	SOL: **FPMainSouth23** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	12:33	12:58	00:25	Line Turn
OPS.GEO	12:58	13:14	00:16	SOL: **FPMainSouth22** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	13:14	13:40	00:26	Line Turn
OPS.GEO	13:40	13:59	00:19	SOL: **FPMainSouth21** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	13:59	14:27	00:28	Line Turn
OPS.GEO	14:27	14:49	00:22	SOL: **FPMainSouth20** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	14:49	15:17	00:28	Line Turn
OPS.GEO	15:17	15:40	00:23	SOL: **FPMainSouth19** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	15:40	16:12	00:32	Line Turn
OPS.GEO	16:12	16:38	00:26	SOL: **FPMainSouth18** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	16:38	17:25	00:47	Line Turn
OPS.GEO	17:25	17:52	00:27	SOL: **FPMainSouth17** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:52	18:05	00:13	Line Turn
OPS.GEO	18:05	18:38	00:33	SOL: **FPMainSouth16** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:38	18:52	00:14	Line Turn, Toolbox Talk: SVP
OPS.GEO	18:52	19:21	00:29	SOL: **FPMainSouth15** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), Sound Velocity Profile underway.
OPS.GEO	19:21	19:36	00:15	Line Turn
OPS.GEO	19:36	20:23	00:47	SOL: **FPMainSouth14**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:23	20:35	00:12	Line Turn
OPS.GEO	20:35	21:09	00:34	SOL: **FPMainSouth13** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	21:09	21:21	00:12	Line Turn
OPS.GEO	21:21	22:10	00:49	SOL: **FPMainSouth12**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:10	22:24	00:14	Line Turn
OPS.GEO	22:24	23:08	00:44	SOL: **FPMainSouth 09** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	23:08	23:22	00:14	Line Turn
OPS.GEO	23:22	24:00	00:38	SOL: **FPMainSouth08**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**013**	**Date**	**Saturday, 19 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	20:06	20.10	121.75	141.85
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	54.37	54.37
DT	Equipment Downtime	00:00	0.00	13.13	13.13
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	03:54	3.90	0.00	3.90
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**278.00**	**302.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue Geophysical Survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**013**	**Date**	**Saturday, 19 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	100.9	**Survey Lines km to date**	1069	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	37.94%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0								
11-Mar	137.7	11-Mar	0								
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107.0	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1032	N	5	1.5		
06:00	1031	NNE	5	1.5		
12:00	1033	NNE	5	1.5		
18:00	1032	NNE	4	1.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**013**	**Date**	**Saturday, 19 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	10	Yes
Toolbox Talks	2	39	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		6	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		3	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	89.9	2.0	0.0	87.9
Lubes (Ltr)	1475.0	0.0	0.0	1475.0
Water (cu.m)	52.0	5.0	1.0	48.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Only able to acquie survey data in single line heading (205°) for part of today due to sea state affecting data quality.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**014**	**Date**	**Sunday, 20 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:16	00:16	continue: **FPMainSouth08**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	00:16	00:27	00:11	Line Turn
OPS.GEO	00:27	01:22	00:55	SOL: **FPMainSouth07** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:22	01:30	00:08	Line Turn
OPS.GEO	01:30	02:26	00:56	SOL: **FPMainSouth06**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:26	02:36	00:10	Line Turn
OPS.GEO	02:36	03:34	00:58	SOL: **FPMainSouth05** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:34	03:43	00:09	Line Turn
OPS.GEO	03:43	04:46	01:03	SOL: **FPMainSouth04**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:46	04:56	00:10	Line Turn
OPS.GEO	04:56	05:57	01:01	SOL: **FPMainSouth03** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:57	06:08	00:11	Line Turn
OPS.GEO	06:08	07:22	01:14	SOL: **FPMainSouth02**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	07:22	07:33	00:11	Line Turn
OPS.GEO	07:33	07:43	00:10	SOL: **FPMainSouth01** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	07:43	08:56	01:13	Line Turn
OPS.GEO	08:56	11:45	02:49	SOL: **FPMain59**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:45	12:04	00:19	Line Turn
OPS.GEO	12:04	14:43	02:39	SOL: **FPMain58** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	14:43	14:54	00:11	Line Turn
OPS.GEO	14:54	17:26	02:32	SOL: **FPMain57**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (15:40)
OPS.GEO	17:26	17:34	00:08	Line Turn
OPS.GEO	17:34	18:21	00:47	SOL: **FPMain56** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), line topped - Starfix NG crash
DT	18:21	19:38	01:17	Line Turn to resume line, restarting Starfix NG, Sound Velocity Profile
OPS.GEO	19:38	21:24	01:46	SOL: **FPMain56M**- Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (21:00) For comparison line with Victor Hensen
OPS.GEO	21:24	21:58	00:34	Line Turn
OPS.GEO	21:58	24:00	02:02	SOL: **FPMain55**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Victor Hensen follows Fugro Pioneer on Line FPMain55 for comparison of MBES data.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**014**	**Date**	**Sunday, 20 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	22:43	22.72	141.85	164.57
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	54.37	54.37
DT	Equipment Downtime	01:17	1.28	13.13	14.42
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	3.90	3.90
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**302.00**	**326.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue Geophysical Survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**014**	**Date**	**Sunday, 20 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	155.7	**Survey Lines km to date**	1225	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	30	**Percentage to date**	43.46%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0								
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107.0	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1032	N	5	1.5		
06:00	1031	N	4	1.5		
12:00	1031	NNW	3	1.0		
18:00	1029	NNW	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**014**	**Date**	**Sunday, 20 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	11	Yes
Toolbox Talks	2	41	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		6	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		3	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	87.9	1.9	0.0	86.0
Lubes (Ltr)	1475.0	60.0	0.0	1415.0
Water (cu.m)	48.0	5.0	1.0	44.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**015**	**Date**	**Monday, 21 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:43	00:43	continue: **FPMain55**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	00:43	00:54	00:11	Line Turn
OPS.GEO	00:54	02:32	01:38	SOL: **FPMain54** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), line topped - Starfix NG crash
DT	02:32	03:52	01:20	Line Turn
OPS.GEO	03:52	04:08	00:16	SOL: **FPMain54M**- Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:08	04:17	00:09	Line Turn
OPS.GEO	04:17	06:52	02:35	SOL: **FPMain53** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP
OPS.GEO	06:52	07:11	00:19	Line Turn and Sound Velocity Profile (07:00)
OPS.GEO	07:11	09:43	02:32	SOL: **FPMain52**- Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	09:43	09:54	00:11	Line Turn
OPS.GEO	09:54	12:38	02:44	SOL: **FPMain51**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:38	12:46	00:08	Line Turn
OPS.GEO	12:46	15:33	02:47	SOL: **FPMain50**- Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: Recovery of 100 Tip Sparker
				Sparker Recovered
DT	15:33	15:46	00:13	Toolbox Talk: Recovery of SSS and Magnetometer
DT	15:46	16:00	00:14	SSS and Magnetometer Recovered
DT	16:00	16:12	00:12	Toolbox Talk: Recovery of Victor Hensen's USBL calibration equipment from Seabed.
DT	16:12	17:50	01:38	Attempt release of USBL Cal via acoustic release. (Unsuccessful)
DT	17:50	18:33	00:43	Suspend USBL release and recovery, return to Geophysical survey operations. Toolbox Talk: SVP
DT	18:33	18:47	00:14	Sound Velocity Profile and Deployment of SSS and Magnetometer.
OPS.GEO	18:47	22:13	03:26	SOL: **FPMain49**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:13	22:23	00:10	Line Turn
OPS.GEO	22:23	24:00	01:37	SOL: **FPMain48**- Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**015**	**Date**	**Monday, 21 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	19:26	19.43	164.57	184.00
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	54.37	54.37
DT	Equipment Downtime	04:34	4.57	14.42	18.98
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	3.90	3.90
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**326.00**	**350.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	12:00	Continue Geophysical Survey operations
12:00	24:00	Deploy UHRS equipment, resume UHRS operations when sea conditions allow.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**015**	**Date**	**Monday, 21 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	143.4	**Survey Lines km to date**	1369	**Total Project km**	2819
Transit etc km today	12	**Transit etc km to date**	42	**Percentage to date**	48.55%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0								
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107.0	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1029	NNW	4	1.0		
06:00	1029	NNW	4	1.0		
12:00	1029	WSW	4	1.0		
18:00	1028	NW	4/5	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**015**	**Date**	**Monday, 21 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	12	Yes
Toolbox Talks	3	44	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		6	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill	3	6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Recovery and Deployment of SSS and Magnetometer	3
Recovery of 100-Tip Sparker	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	86.0	2.0	0.0	84.0
Lubes (Ltr)	1415.0	0.0	0.0	1415.0
Water (cu.m)	44.0	3.0	3.0	44.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Vessel Drills: Muster of All crew, Rescue from Height, Emergency Steering and Helicopter Med-evac. HOC: Door mat at entrance to online room causes trip hazard, as it slips and creases. HOC: Misleading information regarding vessel drill on whiteboard.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**016**	**Date**	**Tuesday, 22 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	01:01	01:01	continue: **FPMain48**- Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:01	01:14	00:13	Line Turn
OPS.GEO	01:14	01:49	00:35	SOL: **FPMain55I** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:49	02:14	00:25	Line Turn
OPS.GEO	02:14	02:42	00:28	SOL: **FPMain36I**- Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:42	04:18	01:36	Line Turn
OPS.GEO	04:18	04:31	00:13	SOL: **FPMain01 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:31	04:44	00:13	Line Turn
OPS.GEO	04:44	05:22	00:38	SOL: **FPMain06 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:22	05:35	00:13	Line Turn
OPS.GEO	05:35	06:01	00:26	SOL: **FPMain04 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:01	06:12	00:11	Line Turn
OPS.GEO	06:12	06:46	00:34	SOL: **FPMain05 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP
OPS.GEO	06:46	07:15	00:29	Line Turn and Sound Velocity Profile (07:00)
OPS.GEO	07:15	07:36	00:21	SOL: **FPMain02 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	07:36	07:45	00:09	Line Turn
OPS.GEO	07:45	08:09	00:24	SOL: **FPMain03 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	08:09	08:52	00:43	Line Turn
OPS.GEO	08:52	09:07	00:15	SOL: **FPMain40I -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	09:07	09:17	00:10	Line Turn
OPS.GEO	09:17	09:57	00:40	SOL: **FPMain45I -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	09:57	10:34	00:37	Line Turn
OPS.GEO	10:34	10:53	00:19	SOL: **FPMain36I1 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP
OPS.GEO	10:53	11:32	00:39	Line Turn and Sound Velocity Profile (07:00)
OPS.GEO	11:32	12:09	00:37	SOL: **FPMainNorthXL7 -** Hdg: 120° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:09	12:19	00:10	Line Turn
OPS.GEO	12:19	12:56	00:37	SOL: **FPMainNorthXL6 -** Hdg: 300° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:56	13:04	00:08	Line Turn
OPS.GEO	13:04	13:41	00:37	SOL: **FPMainNorthXL5 -** Hdg: 120° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	13:41	13:49	00:08	Line Turn
OPS.GEO	13:49	14:25	00:36	SOL: **FPMainNorthXL4 -** Hdg: 300° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	14:25	14:34	00:09	Line Turn
OPS.GEO	14:34	15:09	00:35	SOL: **FPMainNorthXL3 -** Hdg: 120° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	15:09	15:16	00:07	Line Turn
OPS.GEO	15:16	15:53	00:37	SOL: **FPMainNorthXL2 -** Hdg: 300° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	15:53	16:02	00:09	Line Turn
OPS.GEO	16:02	16:40	00:38	SOL: **FPMainNorthXL1 -** Hdg: 120° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	16:40	17:20	00:40	Line Turn
OPS.GEO	17:20	17:32	00:12	SOL: **FPMain36I -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:32	18:03	00:31	Line Turn, Toolbox Talk: Deployment of Sparkers, Streamer and Single channel Hydrophone
OPS.GEO	18:03	19:20	01:17	SOL: **FPMainNorth05A -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger) Streamer, Sparkers and Hydrophone deployed
OPS.GEO	19:20	19:43	00:23	Line Turn
OPS.MCS	19:43	23:00	03:17	SOL: **FPMainSeis29** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh
				Toolbox Talk: SVP underway
				Sound Velocity Profile (20:15)
OPS.MCS	23:00	23:29	00:29	Line Turn
OPS.MCS	23:29	24:00	00:31	SOL: **FPMainSeis30** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**016**	**Date**	**Tuesday, 22 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	19:43	19.72	184.00	203.72
OPS.MCS	Operational Multichannel Seismic	04:17	4.28	54.37	58.65
DT	Equipment Downtime	00:00	0.00	18.98	18.98
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	3.90	3.90
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**350.00**	**374.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS Survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**016**	**Date**	**Tuesday, 22 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	91.8	**Survey Lines km to date**	1460	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	42	**Percentage to date**	51.80%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	92	22-Mar	0				
13-Mar	91.0	13-Mar	0								
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107.0	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1026	NW	4	1.0		
06:00	1025	W	4	1.0		
12:00	1025	NW	4	1.0		
18:00	1029	NW	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**016**	**Date**	**Tuesday, 22 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	13	Yes
Toolbox Talks	4	48	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		8	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (3)	3
Deployment of Sparkers, Streamer and Single Channel Hydrophone	5

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	84.0	1.9	0.0	82.1
Lubes (Ltr)	1415.0	0.0	0.0	1415.0
Water (cu.m)	44.0	4.0	5.0	45.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
HSE Summary table updated, total number of HOC = 8, 2 x HOC missed from summary on DOR 015, HOCs were summarised in Party Chief comments.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**017**	**Date**	**Wednesday, 23 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	03:12	03:12	continue: **FPMainSeis30** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	03:12	04:08	00:56	Line Turn
OPS.MCS	04:08	06:30	02:22	SOL: **FPMainSeis17** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh
				Toolbox Talk: SVP
OPS.MCS	06:30	08:02	01:32	Line Turn and Sound Velocity Profile (07:20)
OPS.MCS	08:02	10:15	02:13	SOL: **FPX20** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)
OPS.MCS	10:15	11:15	01:00	Line Turn: Toolbox Talks: Recovery and deployment of 100-Tip Sparker, SVP
				Recovery and deployment of 100-Tip Sparker, adjustment of buoyance, removal of debris. Sound Velocity Profile (10:20)
OPS.MCS	11:15	13:40	02:25	SOL: **FPX27** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Streamer)
OPS.MCS	13:40	14:59	01:19	Line Turn
OPS.MCS	14:59	17:43	02:44	SOL: **FPMainSeis18** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh
				Toolbox Talk: SVP underway
				Sound Velocity Profile (16:30)
OPS.MCS	17:43	18:00	00:17	Line Turn
OPS.MCS	18:00	20:03	02:03	SOL: **FPMainSeis20** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh
OPS.MCS	20:03	20:24	00:21	Line Turn
OPS.MCS	20:24	22:26	02:02	SOL: **FPMainSeis19** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh
OPS.MCS	22:26	22:48	00:22	Line Turn
OPS.MCS	22:48	24:00	01:12	SOL: **FPMainSeis22** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**017**	**Date**	**Wednesday, 23 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	203.72	203.72
OPS.MCS	Operational Multichannel Seismic	24:00	24.00	58.65	82.65
DT	Equipment Downtime	00:00	0.00	18.98	18.98
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	3.90	3.90
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**374.00**	**398.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS Survey operations whilst weather conditions allow.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**017**	**Date**	**Wednesday, 23 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	116.3	**Survey Lines km to date**	1577	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	42	**Percentage to date**	55.93%

Survey Lines		Transit etc.		Survey Lines		Transit etc.		Survey Lines		Transit etc.	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	92	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116	23-Mar	0				
14-Mar	118.1	14-Mar	0								
15-Mar	88.1	15-Mar	0								
16-Mar	107.0	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1024	NW	4	1.0		
06:00	1023	NNW	4	0.5		
12:00	1023	NNW	4	1.0		
18:00	1023	NW	3	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**017**	**Date**	**Wednesday, 23 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	14	Yes
Toolbox Talks	4	52	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		8	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (3)	3
Recovery and Deployment of 100-Tip Sparker	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	82.1	1.8	0.0	80.3
Lubes (Ltr)	1415.0	0.0	0.0	1415.0
Water (cu.m)	45.0	3.0	5.0	47.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**018**	**Date**	**Thursday, 24 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	01:11	01:11	continue: **FPMainSeis22** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
DT	01:11	02:01	00:50	Line Stopped due to starfix NG crash. Line Turn, restarting systems.
OPS.MCS	02:01	03:19	01:18	SOL: **FPMainSeis22M** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	03:19	03:43	00:24	Line Turn
OPS.MCS	03:43	06:45	03:02	SOL: **FPMainSeis21** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	06:45	07:10	00:25	Line Turn
OPS.MCS	07:10	10:18	03:08	SOL: **FPMainSeis24** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (07:20)
OPS.MCS	10:18	10:35	00:17	Line Turn
OPS.MCS	10:35	13:06	02:31	SOL: **FPMainSeis23** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	13:06	13:32	00:26	Line Turn
OPS.MCS	13:32	16:29	02:57	SOL: **FPMainSeis26** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	16:29	16:51	00:22	Line Turn
OPS.MCS	16:51	20:31	03:40	SOL: **FPMainSeis25** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (19:30)
WOT	20:31	21:02	00:31	Line FPMainSeis25 stopped due to fishing vessel, turn to resume line
OPS.MCS	21:02	21:23	00:21	SOL: **FPMainSeis25M** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	21:23	21:47	00:24	Line Turn
OPS.MCS	21:47	22:00	00:13	SOL: **FPMainSeis28** - Hdg: 025° - Line aborted due to weather.
SW.BL	22:00	22:10	00:10	Toolbox Talk: Recovery of Streamer, Sparkers and Hydrophone
SW.BL	22:10	23:13	01:03	Streamer, Sparkers and Single Ch Hydrophone recovered, resume Geophysical operations
OPS.GEO	23:13	23:31	00:18	SOL: **FPMainSouth05I -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger) Infill of data gap
OPS.GEO	23:31	23:42	00:11	Line Turn
OPS.GEO	23:42	24:00	00:18	SOL: **FPMainSouth08A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger) rerun due to weather affected data.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**018**	**Date**	**Thursday, 24 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:47	0.78	203.72	204.50
OPS.MCS	Operational Multichannel Seismic	20:39	20.65	82.65	103.30
DT	Equipment Downtime	00:50	0.83	18.98	19.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	01:13	1.22	3.90	5.12
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:31	0.52	0.00	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**398.00**	**422.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue geophysical re-runs and infills.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**018**	**Date**	**Thursday, 24 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	102.5	**Survey Lines km to date**	1679	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	42	**Percentage to date**	59.56%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0								
16-Mar	107.0	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1023	NW	3	0.5		
06:00	1022	SSW	3	0.5		
12:00	1022	SW	4	1.0		
18:00	1020	SW	5	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**018**	**Date**	**Thursday, 24 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	15	Yes
Toolbox Talks	3	55	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	2	10	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3
Recovery of Streamer, Sparkers and Hydrophone	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	80.3	1.6	0.0	78.7
Lubes (Ltr)	1415.0	25.0	0.0	1390.0
Water (cu.m)	47.0	4.0	5.0	48.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Safety Walk round of Aft-Deck and Survey stores. (PC, TC, Client) HOC: Charger cables in dry store hanging across fire extinguisher HOC: Deck grating on aft deck loose due to re-routing of sparker HV cable – trip hazard.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**019**	**Date**	**Friday, 25 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:36	00:36	continue: **FPMainSouth08A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger) rerun due to weather affected data.
OPS.GEO	00:36	00:49	00:13	Line Turn
OPS.GEO	00:49	01:37	00:48	SOL: **FPMainSouth12A -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger) data poor on Hdg 205°
OPS.GEO	01:37	01:46	00:09	Line Turn
OPS.GEO	01:46	02:25	00:39	SOL: **FPMainSouth14A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	02:25	03:47	01:22	Line Turn, running single direction due to weather
OPS.GEO	03:47	04:22	00:35	SOL: **FPMainSouth12B -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	04:22	05:43	01:21	Line Turn, running single direction due to weather
OPS.GEO	05:43	06:15	00:32	SOL: **FPMainSouth16A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	06:15	07:43	01:28	Line Turn, running single direction due to weather
OPS.GEO	07:43	10:18	02:35	SOL: **FPMain59A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
OPS.GEO	10:18	10:40	00:22	Line Turn and Sound Velocity Profile
OPS.GEO	10:40	11:17	00:37	SOL: **FPMainNorth03A -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:17	11:28	00:11	Line Turn
OPS.GEO	11:28	11:35	00:07	SOL: **FPMainNorth02I -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:35	11:42	00:07	Line Turn
OPS.GEO	11:42	12:22	00:40	SOL: **FPMainNorth03AM -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:22	12:34	00:12	Line Turn
OPS.GEO	12:34	13:50	01:16	SOL: **FPMainNorth01AM -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	13:50	14:00	00:10	Line Turn
OPS.GEO	14:00	16:44	02:44	SOL: **FPMain57A -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	16:44	16:54	00:10	Line Turn
OPS.GEO	16:54	19:36	02:42	SOL: **FPMain55A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (17:10)
OPS.GEO	19:36	19:45	00:09	Line Turn
OPS.GEO	19:45	22:35	02:50	SOL: **FPMain53A -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:35	22:47	00:12	Line Turn
OPS.GEO	22:47	24:00	01:13	SOL: **FPMain51A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**019**	**Date**	**Friday, 25 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	19:49	19.82	204.50	224.32
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	103.30	103.30
DT	Equipment Downtime	00:00	0.00	19.82	19.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	04:11	4.18	5.12	9.30
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**422.00**	**446.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	06:00	Continue geophysical re-runs and infills.
06:00	08:00	Transiot to Rotterdam Pilot Station
08:00	12:00	Pilot onbnoard for Absolute Depth Check at Maeslandkering.
12:00	24:00	Weather Standby alongsdie Rotterdam

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**019**	**Date**	**Friday, 25 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0.0	**Survey Lines km to date**	1679	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	42	**Percentage to date**	59.56%

Survey Lines		Transit etc.		Survey Lines		Transit etc.		Survey Lines		Transit etc.	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1019	SW	6	1.5		
06:00	1017	SW	6	2.0		
12:00	1019	NW	5	1.0		
18:00	1023	W	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**019**	**Date**	**Friday, 25 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	16	Yes
Toolbox Talks	2	57	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	11	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile, Underway (2)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	78.7	1.6	0.0	77.1
Lubes (Ltr)	1390.0	0.0	0.0	1390.0
Water (cu.m)	48.0	4.0	5.0	49.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
HOC: Food for evening meal was put out 75mins before meal time. No ocvers on food. Water heater does not appear to work. km surveyed today are infills and re-runs, the survey km have already been counted first time run, hence 0km counted for today.	The vessel has not been provisioned for four weeks for 29 people and the client expects additional stores to be taken onboard prior to returning to site.
Party Chief Signature	**Client Representative Signature**
 Toby Harrison - Party Chief - Fugro Pioneer	 Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**020**	**Date**	**Saturday, 26 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	01:24	01:24	continue: **FPMain51A -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:24	01:32	00:08	Line Turn
OPS.GEO	01:32	02:43	01:11	SOL: **FPMainSouth49A -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	02:43	02:54	00:11	Toolbox Talks: SVP, Recovery of SSS and MBES moonpool
SW.BL	02:54	03:10	00:16	SSS, MBES and HiPAP pole recovered.
SW.BL	03:10	03:55	00:45	Sound velocity profile (03:42)
SW.BL	03:55	07:10	03:15	Transit to Rotterdam, for Depth check at Maeslandkering, Toolbox Talks: SVP and MBES moonpool Deployment and recovery
SW.BL	07:10	08:40	01:30	Pilot Onboard - Inbound Rotterdam for Depth Check
SW.BL	08:40	09:24	00:44	SVP, and Deployment of MBES Moonpool.
SW.BL	09:24	11:48	02:24	Depth Check at Maeslandkering.
SW.BL	11:48	11:52	00:04	Recovery of MBES Moonnpool
SW.BL	11:52	12:55	01:03	Moving to Berth in Rotterdam - Maasvlakte
SW.BL	12:55	18:00	05:05	Alongside Rotterdam Maasvlakte
SW.AL	18:00	24:00	06:00	Alongside Rotterdam Maasvlakte.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**020**	**Date**	**Saturday, 26 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	02:43	2.72	224.32	227.03
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	103.30	103.30
DT	Equipment Downtime	00:00	0.00	19.82	19.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	15:17	15.28	9.30	24.58
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	06:00	6.00	0.00	6.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**446.00**	**470.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Weather Standby alongside Rotterdam

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**020**	**Date**	**Saturday, 26 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0.0	**Survey Lines km to date**	1679	**Total Project km**	2819
Transit etc km today	40	**Transit etc km to date**	82	**Percentage to date**	59.56%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0				
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1026	SSW	4	1.0		
06:00	1023	SSE	6	1.0-1.5		
12:00	1020	SSE	5/6	-		
18:00	1017	SW	3	-		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**020**	**Date**	**Saturday, 26 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	17	Yes
Toolbox Talks	5	62	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	12	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile (2)	3
MBES Moonpool, Deployment and Recovery (2)	3
SSS Recovery	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	77.1	1.9	0.0	75.2
Lubes (Ltr)	1390.0	0.0	0.0	1390.0
Water (cu.m)	49.0	3.0	3.0	49.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
	Vessel has not been adequately provisioned for four weeks at sea . After three weeks we are now running out of essential stores. Vessel must be re-stocked before returning to site.
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**021**	**Date**	**Sunday, 27 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	01:00	01:00	Alongside Rotterdam Maasvlakte. Weather Stby.
	01:00	02:00		Clocks Advance +1 hour (UTC +2)
SW.AL	02:00	24:00	22:00	Alongside Rotterdam Maasvlakte. Weather Stby.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**021**	**Date**	**Sunday, 27 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	227.03	227.03
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	103.30	103.30
DT	Equipment Downtime	00:00	0.00	19.82	19.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	24.58	24.58
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	23:00	23.00	6.00	29.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**23:00**	**23.00**	**470.00**	**493.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Weather Standby alongside Rotterdam

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**021**	**Date**	**Sunday, 27 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0.0	**Survey Lines km to date**	1679	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	59.56%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0				
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1010	SW	3	-		
06:00	1011	SSW	4	-		
12:00	1015	SW	4	-		
18:00	1012	SSW	4	-		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**021**	**Date**	**Sunday, 27 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	18	Yes
Toolbox Talks		62	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		12	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	75.2	1.0	0.0	74.2
Lubes (Ltr)	1390.0	20.0	0.0	1370.0
Water (cu.m)	49.0	3.0	30.0	76.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**022**	**Date**	**Monday, 28 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	24:00	24:00	Alongside Rotterdam Maasvlakte. Weather Stby.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**022**	**Date**	**Monday, 28 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	227.03	227.03
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	103.30	103.30
DT	Equipment Downtime	00:00	0.00	19.82	19.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	24.58	24.58
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	24:00	24.00	29.00	53.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**493.00**	**517.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	12:00	Weather Standby alongside Rotterdam
12:00	15:00	Return to survey area
15:00	24:00	On site, resume survey operations if when weather conditions permit.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**022**	**Date**	**Monday, 28 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0.0	**Survey Lines km to date**	1679	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	59.56%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0				
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1010	SW	3	-		
06:00	1011	SSW	4	-		
12:00	1015	SW	4	-		
18:00	1012	SSW	4	-		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**022**	**Date**	**Monday, 28 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	19	Yes
Toolbox Talks		62	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	2	14	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	74.2	0.8	0.0	73.4
Lubes (Ltr)	1370.0	0.0	0.0	1370.0
Water (cu.m)	76.0	3.0	0.0	73.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
HOC: Towels stacked on plastic solvent container at base of emergency exit ladder. HOC: Aerosols with extremely flammable contents stored in cupboards at same height as driers in laundry. No fire extinguisher in the room.	The latest forecast shows sea state 1.6m to 3m+ at midnight Tuesday, with workable weather sometime later Wednesday
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**023**	**Date**	**Tuesday, 29 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	12:00	12:00	Alongside Rotterdam Maasvlakte. Weather Stby.
SW.AL	12:00	14:15	02:15	Departure from Rotterdam, return transit to survey area.
SW.AL	14:15	24:00	09:45	At survey area, weather conditions prevent survey operations. Weather standby.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**023**	**Date**	**Tuesday, 29 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	227.03	227.03
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	103.30	103.30
DT	Equipment Downtime	00:00	0.00	19.82	19.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	24.58	24.58
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	24:00	24.00	53.00	77.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**517.00**	**541.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	On site, resume survey operations when weather permits
		Complete outstanding geophysical re-runs in area 1 and 2
		Commence work scope of Victor Hensen from Western side until conditions suitable for UHRS.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**023**	**Date**	**Tuesday, 29 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0.0	**Survey Lines km to date**	1679	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	59.56%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0				
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1005	SW	4	-		Alongside
06:00	1009	SW	4/5	-		Alongside
12:00	1013	SW	4/5	-		Alongside
18:00	1015	SW	6	2.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**023**	**Date**	**Tuesday, 29 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	20	Yes
Toolbox Talks		62	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		14	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	73.4	1.0	0.0	72.4
Lubes (Ltr)	1370.0	0.0	0.0	1370.0
Water (cu.m)	73.0	3.0	2.0	72.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**024**	**Date**	**Wednesday, 30 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	07:00	07:00	At survey area, weather conditions prevent survey operations. Weather standby.
SW.AL	07:00	07:28	00:28	Toolbox Talks: Deployment of MBES Moonpool, HiPAP, SSS and Magnetometer, SVP
OPS.GEO	07:28	08:10	00:42	Sound Velocity Profile, MBES and HiPAP deployed, Checking data quality on line headings, ok in one heading
OPS.GEO	08:10	08:30	00:20	Deployment of SSS and Magnetometer
OPS.GEO	08:30	09:53	01:23	Verification of Navigation setup in new Starfix NG project over wreck position.
OPS.GEO	09:53	11:25	01:32	SOL: **FPMain49MA -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger), Toolbox Talk: SVP
OPS.GEO	11:25	11:58	00:33	Line Turn and Sound Velocity Profile
OPS.GEO	11:58	12:22	00:24	SOL: **VHMainNorth18 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:22	12:39	00:17	Line Turn
OPS.GEO	12:39	13:05	00:26	SOL: **VHMainNorth17 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), Line rejected poor data.
OPS.GEO	13:05	13:16	00:11	Line Turn
OPS.GEO	13:16	13:44	00:28	SOL: **VHMainNorth16 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	13:44	14:24	00:40	Line Turn, running single direction due to weather
OPS.GEO	14:24	14:54	00:30	SOL: **VHMainNorth15 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	14:54	15:36	00:42	Line Turn, running single direction due to weather
OPS.GEO	15:36	16:08	00:32	SOL: **VHMainNorth14 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	16:08	16:49	00:41	Line Turn, running single direction due to weather
OPS.GEO	16:49	17:25	00:36	SOL: **VHMainNorth13 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:25	17:34	00:09	Line Turn
OPS.GEO	17:34	18:12	00:38	SOL: **VHMainNorth12 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger), Line rejected poor data.
OPS.GEO	18:12	18:21	00:09	Line Turn
OPS.GEO	18:21	19:00	00:39	SOL: **VHMainNorth11 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
SW.BL	19:00	19:53	00:53	Line Turn, running single direction due to weather
OPS.GEO	19:53	20:35	00:42	SOL: **VHMainNorth10 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:35	20:48	00:13	Line Turn
OPS.GEO	20:48	21:32	00:44	SOL: **VHMainNorth09 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	21:32	21:41	00:09	Line Turn
OPS.GEO	21:41	22:29	00:48	SOL: **VHMainNorth08 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (22:00)
OPS.GEO	22:29	22:41	00:12	Line Turn
OPS.GEO	22:41	23:31	00:50	SOL: **VHMainNorth07 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	23:31	23:41	00:10	Line Turn
OPS.GEO	23:41	24:00	00:19	SOL: **VHMainNorth06 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**024**	**Date**	**Wednesday, 30 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	13:36	13.60	227.03	240.63
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	103.30	103.30
DT	Equipment Downtime	00:00	0.00	19.82	19.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	02:56	2.93	24.58	27.52
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	07:28	7.47	77.00	84.47
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**541.00**	**565.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	07:00	Continue Geophysical survey operations
07:00	24:00	Deploy UHRS equipment and resume UHRS survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**024**	**Date**	**Wednesday, 30 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	51.0	**Survey Lines km to date**	1730	**Total Project km**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	61.37%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0	30-Mar	51.0	30-Mar	0
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12				
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1013	S	5	2.0		
06:00	1014	SW	5	1.5		
12:00	1015	SW	5	1.5		
18:00	1018	SW	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**024**	**Date**	**Wednesday, 30 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	21	Yes
Toolbox Talks	6	68	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		14	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment of MBES Moonpool	3
Deployment of HiPAP pole, opening gate valve	3
Deployment of SSS and Magnetometer	3
Sound Velocity Profile (3)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	72.4	1.4	0.0	71.0
Lubes (Ltr)	1370.0	0.0	0.0	1370.0
Water (cu.m)	72.0	4.0	5.0	73.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**025**	**Date**	**Thursday, 31 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:34	00:34	continue: **VHMainNorth06 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	00:34	00:43	00:09	Line Turn
OPS.GEO	00:43	01:38	00:55	SOL: **VHMainNorth05 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:38	01:46	00:08	Line Turn
OPS.GEO	01:46	02:46	01:00	SOL: **VHMainNorth04 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:46	02:54	00:08	Line Turn
OPS.GEO	02:54	03:53	00:59	SOL: **VHMainNorth03 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:53	04:03	00:10	Line Turn
OPS.GEO	04:03	05:08	01:05	SOL: **VHMainNorth02 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:08	05:22	00:14	Line Turn
OPS.GEO	05:22	06:28	01:06	SOL: **VHMainNorth01 -** Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	06:28	06:40	00:12	Toolbox Talks: Deployment of Sparkers, Streamer and Hydrophone, SVP
OPS.MCS	06:40	08:41	02:01	Sound Velocity Profile (06:40), Deployment of Sparkers, Streamer and Hydrophone
OPS.MCS	08:41	10:21	01:40	SOL: **FPMainSeis28** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
DT	10:21	10:55	00:34	Line Stopped: UHRS software crash, turn to resume line
OPS.MCS	10:55	12:14	01:19	SOL: **FPMainSeis28A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	12:14	12:36	00:22	Line Turn
OPS.MCS	12:36	15:28	02:52	SOL: **FPMainSeis27** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (13:12)
OPS.MCS	15:28	16:08	00:40	Line Turn
OPS.MCS	16:08	20:35	04:27	rerun: **FPMainSeis34A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (17:00)
OPS.MCS	20:35	20:57	00:22	Line Turn
OPS.MCS	20:57	24:00	03:03	rerun: **FPMainSeis31A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**025**	**Date**	**Thursday, 31 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	06:40	6.67	240.63	247.30
OPS.MCS	Operational Multichannel Seismic	16:46	16.77	103.30	120.07
DT	Equipment Downtime	00:34	0.57	19.82	20.38
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	27.52	27.52
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	84.47	84.47
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**565.00**	**589.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**025**	**Date**	**Thursday, 31 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	46.8	**Survey Lines km to date (Pioneer)**	1726	**Total Project km (Pioneer)**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	61.22%
Survey Lines of VH km today	47.0	**Survey lines of VH to date**	98		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0	30-Mar	51.0	30-Mar	0
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12	31-Mar	93.8	31-Mar	0
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0				
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1019	SW	4/3	1.0		
06:00	1021	S	3	0.5		
12:00	1022	NNE	3/4	0.5		
18:00	1022	NNE	5	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**025**	**Date**	**Thursday, 31 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	22	Yes
Toolbox Talks	4	72	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	2	16	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment of Sparkers, Streamer and Hydrophone	3
Sound Velocity Profile (3)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	71.0	1.4	0.0	69.6
Lubes (Ltr)	1370.0	15.0	0.0	1355.0
Water (cu.m)	73.0	3.0	5.0	75.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
HOC: Trip Hazard on aft deck caused by base plate for streamer roller. HOC: Emergency Exit sign obstructed in switchboard room Note: Workscope completed to date now separates Pioneer and Victor Hensen Workscopes, hence 51km achieved yesterday has been re-assigned to VH total.	
Party Chief Signature	**Client Representative Signature**
 Toby Harrison - Party Chief - Fugro Pioneer	 Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**026**	**Date**	**Friday, 1 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	01:17	01:17	continue: **FPMainSeis31A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	01:17	01:56	00:39	Line Turn
OPS.MCS	01:56	05:46	03:50	SOL: **FPMainSeis39** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	05:46	05:56	00:10	Line Turn
OPS.MCS	05:56	09:11	03:15	SOL: **FPMainSeis37** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (06:30)
OPS.MCS	09:11	09:46	00:35	Line Turn
OPS.MCS	09:46	12:42	02:56	rerun: **FPMainSeis32A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (12:32)
OPS.MCS	12:42	13:15	00:33	Line Turn
OPS.MCS	13:15	16:10	02:55	rerun: **FPMainSeis25A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	16:10	17:09	00:59	Line Turn
OPS.MCS	17:09	21:12	04:03	SOL: **FPMainSeis42** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	21:12	21:22	00:10	Line Turn
OPS.MCS	21:22	24:00	02:38	SOL: **FPMainSeis40** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**026**	**Date**	**Friday, 1 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	247.30	247.30
OPS.MCS	Operational Multichannel Seismic	24:00	24.00	120.07	144.07
DT	Equipment Downtime	00:00	0.00	20.38	20.38
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	27.52	27.52
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	84.47	84.47
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**589.00**	**613.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**026**	**Date**	**Friday, 1 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	93.5	**Survey Lines km to date (Pioneer)**	1819	**Total Project km (Pioneer)**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	64.54%
Survey Lines of VH km today	0.0	**Survey lines of VH to date**	98		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0	30-Mar	51.0	30-Mar	0
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12	31-Mar	93.8	31-Mar	0
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0	01-Apr	93.5	01-Apr	0
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0				
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1025	NE	5	1.0		
06:00	1028	NE	4	1.0		
12:00	1030	E	3	0.5		
18:00	1028	W	2	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**026**	**Date**	**Friday, 1 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	23	Yes
Toolbox Talks	2	74	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	7	23	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile (2)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	69.6	1.3	0.0	68.3
Lubes (Ltr)	1355.0	0.0	0.0	1355.0
Water (cu.m)	75.0	3.0	5.0	77.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
HOC: 6 x HOC cards raised from Hygiene inspection of Galley, Messroom and food stores. HOC: Emergency exit route from ER marked as primary escape route only leads to secondary escape route.	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**027**	**Date**	**Saturday, 2 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	01:21	01:21	continue: **FPMainSeis40** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	01:21	01:46	00:25	Line Turn
OPS.MCS	01:46	04:48	03:02	SOL: **FPMainSeis45** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	04:48	04:58	00:10	Line Turn
OPS.MCS	04:58	08:06	03:08	SOL: **FPMainSeis43** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVP underway
				Sound Velocity Profile (05:10), SSS lost comms before EOL, SSS gap to be filled in later
OPS.MCS	08:06	08:44	00:38	Line Turn
OPS.MCS	08:44	11:36	02:52	SOL: **FPMainSeis48** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	11:36	11:55	00:19	Line Turn
OPS.MCS	11:55	15:31	03:36	SOL: **FPMainSeis41** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVPs underway
				Sound Velocity Profile (14:05, 15:14)
DT	15:31	16:11	00:40	Line Stopped: UHRS software crash, turn to resume line
OPS.MCS	16:11	16:43	00:32	SOL: **FPMainSeis41M** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	16:43	17:10	00:27	Line Turn
OPS.MCS	17:10	21:04	03:54	SOL: **FPMainSeis46** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talk: SVPs underway
				Sound Velocity Profile (20:14)
OPS.MCS	21:04	24:00	02:56	SOL: **FPMainSeis44** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**027**	**Date**	**Saturday, 2 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	247.30	247.30
OPS.MCS	Operational Multichannel Seismic	23:20	23.33	144.07	167.40
DT	Equipment Downtime	00:40	0.67	20.38	21.05
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	27.52	27.52
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	84.47	84.47
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**613.00**	**637.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**027**	**Date**	**Saturday, 2 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	142.6	**Survey Lines km to date (Pioneer)**	1962	**Total Project km (Pioneer)**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	69.60%
Survey Lines of VH km today	0.0	**Survey lines of VH to date**	98		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0	30-Mar	51.0	30-Mar	0
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12	31-Mar	93.8	31-Mar	0
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0	01-Apr	93.5	01-Apr	0
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0	02-Apr	142.6	02-Apr	0
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0				
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1028	SSE	2	0.5		
06:00	1026	SSE	2	0.5		
12:00	1025	E	2/3	0.5		
18:00	1021	NE	3	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**027**	**Date**	**Saturday, 2 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	24	Yes
Toolbox Talks	3	77	Yes	Safety Meeting		1	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	2	25	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile (3)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	68.3	1.2	0.0	67.1
Lubes (Ltr)	1355.0	0.0	0.0	1355.0
Water (cu.m)	77.0	3.0	6.0	80.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
HOC: Cabin defects observed during cabin inspection HOC: Shower mats - shortage, Shower curtains & bed sheets - need replacement	
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**028**	**Date**	**Sunday, 3 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	01:04	01:04	continue: **FPMainSeis44** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				SSS lost communication 400m before EOL.
DT	01:04	01:15	00:11	Toolbox Talk: Recovery and deployment of SSS, SVP
DT	01:15	02:21	01:06	Recovery of SSS, fault finding - checking connections.
OPS.MCS	02:21	02:41	00:20	Line Turn and SVP (02:40)
OPS.MCS	02:41	06:24	03:43	SOL: **FPMainSeis51** - Hdg: 025° - (SBES, MBES, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str) No SSS & Mag
OPS.MCS	06:24	06:46	00:22	Line Turn
OPS.MCS	06:46	10:18	03:32	SOL: **FPMainSeis50** - Hdg: 205° - (SBES, MBES, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str) No SSS & Mag
OPS.MCS	10:18	10:54	00:36	Line Turn, SSS deployed.
				Safety Committee meeting - Head of departments (10:30)
OPS.MCS	10:54	13:58	03:04	SOL: **FPMainSeis53** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	13:58	14:22	00:24	Line Turn
OPS.MCS	14:22	18:44	04:22	SOL: **FPMainSeis52** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox Talks: SVPs underway, recovery of sparker
				Sound Velocity Profile (15:12,17:14)
OPS.MCS	18:44	19:38	00:54	Line Turn, Sparker recovered for visual inspection and redeployed.
OPS.MCS	19:38	20:53	01:15	SOL: **FPX08** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	20:53	21:17	00:24	Line Turn
OPS.MCS	21:17	23:41	02:24	rerun: **FPMainSeis21A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	23:41	24:00	00:19	Line Turn

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**028**	**Date**	**Sunday, 3 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	247.30	247.30
OPS.MCS	Operational Multichannel Seismic	22:43	22.72	167.40	190.12
DT	Equipment Downtime	01:17	1.28	21.05	22.33
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	27.52	27.52
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	84.47	84.47
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.52	0.52
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**637.00**	**661.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**028**	**Date**	**Sunday, 3 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	123.6	**Survey Lines km to date (Pioneer)**	2086	**Total Project km (Pioneer)**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	73.98%
Survey Lines of VH km today	0.0	**Survey lines of VH to date**	98		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0	30-Mar	51.0	30-Mar	0
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12	31-Mar	93.8	31-Mar	0
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0	01-Apr	93.5	01-Apr	0
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0	02-Apr	142.6	02-Apr	0
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0	03-Apr	123.6	03-Apr	0
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0				
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1018	ESE	3/4	0.5		
06:00	1017	S	4	0.5		
12:00	1018	SSW	4	0.5		
18:00	1017	NE	2	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**028**	**Date**	**Sunday, 3 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	25	Yes
Toolbox Talks	4	81	Yes	Safety Meeting	1	2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		25	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile (2)	3
Recovery and Deployment of SSS	3
Recovery and Deployment of Sparker	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	67.1	1.2	0.0	65.9
Lubes (Ltr)	1355.0	0.0	0.0	1355.0
Water (cu.m)	80.0	3.0	5.0	82.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**029**	**Date**	**Monday, 4 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:02	00:02	Line Turn
OPS.MCS	00:02	02:32	02:30	SOL: **FPMainSeis17A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	02:32	02:50	00:18	Line Turn
OPS.MCS	02:50	04:45	01:55	SOL: **FPMainSeis18A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	04:45	05:10	00:25	Line Turn
OPS.MCS	05:10	05:39	00:29	SOL: **FPMainSeis13A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
WOT	05:39	06:34	00:55	Line aborted due to fishing boat on survey line, Line turn to resume line.
OPS.MCS	06:34	08:06	01:32	SOL: **FPMainSeis13B** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	08:06	08:31	00:25	Line Turn
OPS.MCS	08:31	10:54	02:23	SOL: **FPMainSeis16A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	10:54	11:22	00:28	Line Turn
OPS.MCS	11:22	12:51	01:29	SOL: **FPMainSeis09A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	12:51	13:13	00:22	Line Turn
OPS.MCS	13:13	14:31	01:18	SOL: **FPMainSeis11A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	14:31	14:54	00:23	Line Turn
OPS.MCS	14:54	16:21	01:27	SOL: **FPMainSeis07A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	16:21	16:56	00:35	Line Turn
OPS.MCS	16:56	18:45	01:49	SOL: **FPX12** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	18:45	19:31	00:46	Line Turn, Toolbox Talks: SVP underway, Sound Velocity Profile (19:12)
OPS.MCS	19:31	20:41	01:10	SOL: **FPSeis45l** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.MCS	20:41	21:00	00:19	Line Trun
OPS.MCS	21:00	24:00	03:00	SOL: **FPMainSeis47** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**029**	**Date**	**Monday, 4 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	247.30	247.30
OPS.MCS	Operational Multichannel Seismic	23:05	23.08	190.12	213.20
DT	Equipment Downtime	00:00	0.00	22.33	22.33
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	27.52	27.52
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	84.47	84.47
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:55	0.92	0.52	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**661.00**	**685.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue UHRS survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**029**	**Date**	**Monday, 4 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	23.9	**Survey Lines km to date (Pioneer)**	2110	**Total Project km (Pioneer)**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	74.83%
Survey Lines of VH km today	0.0	**Survey lines of VH to date**	98		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0	30-Mar	51.0	30-Mar	0
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12	31-Mar	93.8	31-Mar	0
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0	01-Apr	93.5	01-Apr	0
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0	02-Apr	142.6	02-Apr	0
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0	03-Apr	123.6	03-Apr	0
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0	04-Apr	24	04-Apr	0
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1018	ESE	3/4	0.5		
06:00	1017	S	4	0.5		
12:00	1018	SSW	4	0.5		
18:00	1017	NE	2	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**029**	**Date**	**Monday, 4 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	26	Yes
Toolbox Talks	1	82	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		25	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile (1)	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	65.9	1.2	0.0	64.7
Lubes (Ltr)	1355.0	0.0	0.0	1355.0
Water (cu.m)	82.0	4.0	5.0	83.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**030**	**Date**	**Tuesday, 5 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:46	00:46	SOL: **FPMainSeis47** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	00:46	01:12	00:26	Line Turn
OPS.MCS	01:12	01:43	00:31	SOL: **FPMainSeis38** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
DT	01:43	02:00	00:17	Line Stopped, Sparker crossed with streamer.
DT	02:00	02:15	00:15	Toolbox Talks: Recovery Streamer and Sparker, Redeployment, SVP
DT	02:15	03:12	00:57	Uncrossing streamer and Sparker, return to SOL, Sound Velocity Profile.
OPS.MCS	03:12	06:56	03:44	SOL: **FPMainSeis49** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	06:56	07:50	00:54	Line Turn
OPS.MCS	07:50	11:43	03:53	SOL: **FPMainSeis38A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	11:43	12:43	01:00	Line Turn
OPS.MCS	12:43	13:46	01:03	SOL: **FPMainSeis36A** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	13:46	15:40	01:54	Line Turn
OPS.MCS	15:40	19:10	03:30	SOL: **FPX26** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str) **Tie Line**
				Toolbox Talks: SVPs underway, recovery of sparker
				Sound Velocity Profile (16:32)
OPS.MCS	19:10	20:16	01:06	Line Turn
OPS.MCS	20:16	24:00	03:44	SOL: **FPX21** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str) **Tie Line**
				Toolbox Talks: SVPs underway, recovery of sparker
				Sound Velocity Profile (21:35)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**030**	**Date**	**Tuesday, 5 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	247.30	247.30
OPS.MCS	Operational Multichannel Seismic	22:31	22.52	213.20	235.72
DT	Equipment Downtime	01:29	1.48	22.33	23.82
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	27.52	27.52
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	84.47	84.47
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**685.00**	**709.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	10:00	Continue UHRS survey operations, whilst weather conditions allow.
10:00	13:00	Recovery of survey equipment and transit to Scheveningen for vessel replenishment and scheduled crew change.
13:00	24:00	Alongside Scheveningen for vessel replenishment and scheduled crew change.

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**030**	**Date**	**Tuesday, 5 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	105.8	**Survey Lines km to date (Pioneer)**	2215	**Total Project km (Pioneer)**	2819
Transit etc km today	0	**Transit etc km to date**	82	**Percentage to date**	78.58%
Survey Lines of VH km today	0.0	**Survey lines of VH to date**	98		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
07-Mar	0	07-Mar	0	17-Mar	117.1	17-Mar	0	27-Mar	0.0	27-Mar	0
08-Mar	0	08-Mar	0	18-Mar	144.0	18-Mar	0	28-Mar	0.0	28-Mar	0
09-Mar	0	09-Mar	30	19-Mar	100.9	19-Mar	0	29-Mar	0.0	29-Mar	30
10-Mar	56.5	10-Mar	0	20-Mar	155.7	20-Mar	0	30-Mar	51.0	30-Mar	0
11-Mar	137.7	11-Mar	0	21-Mar	143.4	21-Mar	12	31-Mar	93.8	31-Mar	0
12-Mar	109.2	12-Mar	0	22-Mar	91.8	22-Mar	0	01-Apr	93.5	01-Apr	0
13-Mar	91.0	13-Mar	0	23-Mar	116.3	23-Mar	0	02-Apr	142.6	02-Apr	0
14-Mar	118.1	14-Mar	0	24-Mar	102.5	24-Mar	0	03-Apr	123.6	03-Apr	0
15-Mar	88.1	15-Mar	0	25-Mar	0.0	25-Mar	0	04-Apr	23.9	04-Apr	0
16-Mar	107.0	16-Mar	0	26-Mar	0.0	26-Mar	40	05-Apr	105.8	05-Apr	0

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1015	SSW	3	0.5		
06:00	1014	S	2	0.5		
12:00	1014	SSW	2	0.5		
18:00	115	SW	5	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	T. Harrison, K. Bos, F. Lucenti, R. Singh, G. Reynolds, J de Wolf, C. Luna, A. Wehmeyer, R. Nieboer, M. Caponi, M. Buffone, D. Seccia, V. Vitale, R. Knook, (14)		
Marine:	I.Kondranin, M. Aleksandrov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano (14)		
Client:	A. Fleet		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**030**	**Date**	**Tuesday, 5 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		8	No	Vessel Coordination Meeting	1	27	Yes
Toolbox Talks	4	86	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		25	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Sound Velocity Profile (3)	3
Recovery of Streamer and Sparker, Redeployment	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	64.7	1.2	0.0	63.5
Lubes (Ltr)	1355.0	0.0	0.0	1355.0
Water (cu.m)	83.0	4.0	5.0	84.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
	The departure from site time and arrival time in Scheveningen were not made known to the client representative yesterday as a matter of courtesy as suggested in the section 'Next 24hrs'.
Party Chief Signature	**Client Representative Signature**
Toby Harrison - Party Chief - Fugro Pioneer	Alan Fleet - Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, S.Galcenkov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**031**	**Date**	**Wednesday, 6 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:30	00:30	continue: **FPX21** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	00:30	01:06	00:36	Line Turn
OPS.MCS	01:06	03:37	02:31	SOL: **FPX25** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	03:37	04:07	00:30	Line Turn
OPS.MCS	04:07	06:21	02:14	SOL: **FPX23** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	06:21	06:58	00:37	Line Turn
OPS.MCS	06:58	07:37	00:39	SOL: **FPX24** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
DT	07:37	08:10	00:33	Line Stopped, Starfix NG crash, turning to resume line, Weather increasing further, suspend UHRS operations.
OPS.MCS	08:10	08:18	00:08	SOL: **FPMainSeis48I** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger) SSS infill
OPS.MCS	08:18	08:36	00:18	Line turn
OPS.MCS	08:36	09:05	00:29	SOL: **FPMainSeis46I** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger) MBES infill
				Toolbox talk: Recovery of Streamer, Sparkers, Hydrophone, SSS and Magnetometer
SW.BL	09:05	09:45	00:40	Recovery of Streamer, Sparkers, Hydrophone, SSS and Magnetometer
SW.AL	09:45	09:52	00:07	Weather prevents further survey operations, Toolbox talk: Recovery of MBESMoonpool, HiPAP pole and gate valve closure.
SW.AL	09:52	10:02	00:10	Recovery of MBES Moonpool and HiPAP Pole, Closure of Gate Valve.
SW.AL	10:02	12:02	02:00	Transit to Scheveningen for crew change and vessel replenishment during bad weather period.
SW.AL	12:02	24:00	11:58	Alongside Scheveningen during weather standby - Crew Change and Vessel Replenishment.

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, S.Galcenkov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**031**	**Date**	**Wednesday, 6 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	247.30	247.30
OPS.MCS	Operational Multichannel Seismic	08:32	8.53	235.72	244.25
DT	Equipment Downtime	00:33	0.55	23.82	24.37
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:40	0.67	27.52	28.18
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	14:15	14.25	84.47	98.72
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**709.00**	**733.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	18:00	Alongside Scheveningen for weather standby. Times to be confirmed
18:00	24:00	Sail to survey area to resume survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, S.Galcenkov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**031**	**Date**	**Wednesday, 6 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	36.3	**Survey Lines km to date (Pioneer)**	2252	**Total Project km (Pioneer)**	2839
Transit etc km today	30	**Transit etc km to date**	112	**Percentage to date**	79.31%
Survey Lines of VH km today	0.0	**Survey line km of VH to date**	98		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Mar	36.3	06-Mar	30				
28-Mar	0	28-Mar	0								
29-Mar	0	29-Mar	30								
30-Mar	51.0	30-Mar	0								
31-Mar	93.8	31-Mar	0								
01-Apr	93.5	01-Apr	0								
02-Apr	142.6	02-Apr	0								
03-Apr	123.6	03-Apr	0								
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1017	WSW	4	0.5		
06:00	1017	WSW	4	0.5		
12:00	1015	SW	7	0.5		In port
18:00	1012	SW	5/6	0.5		In port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, S.Galcenkov, L. Villamor, R. Baruskas, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**031**	**Date**	**Wednesday, 6 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction	6	14	No	Vessel Coordination Meeting	1	28	Yes
Toolbox Talks	5	91	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		25	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		6	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit	1	1	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Recovery of Streamer, Sparkers and Hydrophone	4
Recovery of SSS and Magnetometer	4
Recovery of HiPAP and Gate Valve Closure	3
Recovery of MBES Moonpool	3
Working at height - Ladder	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	63.5	1.2	140.0	202.3
Lubes (Ltr)	1355.0	15.0	0.0	1340.0
Water (cu.m)	84.0	3.0	5.0	86.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 30		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**032**	**Date**	**Thursday, 7 April 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	18:05	18:05	Alongside Scheveningen during weather standby - Crew Change and Vessel Replenishment.
				- 1 x Survey on-signer joins
				- Embark provisions
				- Vessel Safety Induction tour for one onsigner
				- J. Delissen, MD of FSBV, on-board for visit
				- PP Lebbink, Project Manager, on-board
				- Project kick-off meeting
				- Abandon ship drill & Fire drill
				- ISPS & Rescue boat Drill
				- Complete installation of AIS system
				- Certification of AIS system
				- Draught measurements
SW.AL	18:05	19:40	01:35	Transit to survey area. Toolbox talks:Opening of HiPAP Gate Valve; Deployment & recovery of SVP;
				Deployment of Moonpool Cart; Deployment of SSS & magnetometer
OPS.GEO	19:40	19:50	00:10	Sound velocity profile
OPS.GEO	19:50	20:25	00:35	Opened HiPAP Gate Valve; Deployed Moonpool Cart; Deployed SSS & Magnetometer
DT	20:25	21:10	00:45	Mini SVP for MBES not working. Recovered Moonpool Cart. Replaced Mini SVP. Lowered Moonpool Cart
OPS.GEO	21:10	21:23	00:13	Heading to first geophysical line
DT	21:23	21:43	00:20	SOL: **VHMain42 -** Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger). Line aborted due to SBP VNC viewer problem
DT	21:43	22:40	00:57	Troubleshooting SBP VNC viewer
OPS.GEO	22:40	24:00	01:20	SOL: **VHMain42** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger). KP 0.0 to KP 10.59. Continued overnight

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**032**	**Date**	**Thursday, 7 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	02:18	2.30	247.30	249.60
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	244.25	244.25
DT	Equipment Downtime	02:02	2.03	24.37	26.40
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	28.18	28.18
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	19:40	19.67	98.72	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**733.00**	**757.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with geophysical operations. Switch to UHR operations as soon as weather conditions are suitable

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**032**	**Date**	**Thursday, 7 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	0.0	**Survey Lines km to date (Pioneer)**	2252	**Total Project km (Pioneer)**	2839
Transit etc km today	30	**Transit etc km to date**	142	**Percentage to date**	79.31%
Survey Lines of VH km today	10.6	**Survey line km of VH to date**	109		

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Mar	36.3	06-Mar	30				
28-Mar	0	28-Mar	0	07-Mar	10.6	07-Mar	30				
29-Mar	0	29-Mar	30								
30-Mar	51.0	30-Mar	0								
31-Mar	93.8	31-Mar	0								
01-Apr	93.5	01-Apr	0								
02-Apr	142.6	02-Apr	0								
03-Apr	123.6	03-Apr	0								
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1013	W	6	0.4		In port
06:00	1014	W	6	0.4		In port
12:00	1015	SW	6	0.3		In port
18:00	1017	SW	5	0.3		In port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**032**	**Date**	**Thursday, 7 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction	1	15	No	Vessel Coordination Meeting	1	29	Yes
Toolbox Talks	5	96	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		25	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill	4	10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit	1	2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Working at height - Ladder	3
Opening of HiPAP Gate Valve	4
Deployment & recovery of CTD	4
Deployment of Moonpool Cart	4
Deployment of SSS & Magnetometer	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	202.3	1.3	0.0	201.0
Lubes (Ltr)	1340.0	0.0	0.0	1340.0
Water (cu.m)	81.0	3.0	1.0	79.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 30		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**033**	**Date**	**Friday, 8 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	01:20	01:20	Continued with SOL: **VHMain42** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger).
OPS.GEO	01:20	01:32	00:12	Line turn
OPS.GEO	01:32	04:19	02:47	SOL: **VHMain43** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:19	04:27	00:08	Line turn
OPS.GEO	04:27	07:02	02:35	SOL: **VHMain45** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talks: Recovery & deployment of SSS & Magnetometer. Deployment of Sparkers, Streamer and Hydrophone, SVP
OPS.GEO	07:02	07:25	00:23	Recovery of SSS & Magnetometer
OPS.MCS	07:25	08:20	00:55	Deployed both Sparkers, Streamer and Hydrophone
OPS.MCS	08:20	08:40	00:20	Sound velocity profile
OPS.MCS	08:40	09:00	00:20	Deployed SSS & Magnetometer
OPS.MCS	09:00	09:57	00:57	Heading to UHRS line. Testing systems
DT	09:57	10:05	00:08	SOL: **FPMainSeis63.** Line scratched due to online system SF NG crash at SOL
DT	10:05	10:34	00:29	Line turn. Rebooting online system SF NG & GLOG
OPS.MCS	10:34	11:56	01:22	SOL: **FPMainSeis63** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	11:56	12:48	00:52	Line turn. Head to next adjacent line
OPS.MCS	12:48	15:20	02:32	SOL: **FPMainSeis61** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	15:20	15:43	00:23	Line turn
OPS.MCS	15:43	17:47	02:04	SOL: **FPMainSeis62** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	17:47	18:12	00:25	Line turn
OPS.MCS	18:12	21:35	03:23	SOL: **FPMainSeis59** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	21:35	22:06	00:31	Line turn
OPS.MCS	22:06	24:00	01:54	SOL: **FPMainSeis60** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				KP 0.0 to KP 10.3. Continued overnight
				Toolbox Talk: Recovery & deployment of SSS & Magnetometer. Recovered and deployed SSS & Magnetometer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 30		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**033**	**Date**	**Friday, 8 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	07:25	7.42	249.60	257.02
OPS.MCS	Operational Multichannel Seismic	15:58	15.97	244.25	260.22
DT	Equipment Downtime	00:37	0.62	26.40	27.02
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	28.18	28.18
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**757.00**	**781.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with UHRS operations. Switch to geophysical operations if UHRS operations are not possible

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**033**	**Date**	**Friday, 8 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	82.6	**Survey Lines km to date (Pioneer)**	2334	**Total Project km (Pioneer)**	2839
Transit etc km today	7	**Transit etc km to date**	149	**Percentage to date**	82.22%
Survey Lines of VH km today	52.6	**Survey line km of VH to date**	161	**VH Lines KM remaining**	238.20

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Mar	36.3	06-Mar	30				
28-Mar	0	28-Mar	0	07-Mar	10.6	07-Mar	30				
29-Mar	0	29-Mar	30	08-Mar	135.0	08-Mar	7				
30-Mar	51.0	30-Mar	0								
31-Mar	93.8	31-Mar	0								
01-Apr	93.5	01-Apr	0								
02-Apr	142.6	02-Apr	0								
03-Apr	123.6	03-Apr	0								
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1019	W	4	1.5		
06:00	1018	W	3	1.0		
12:00	1020	SSW	2	0.5		
18:00	1019	WSW	2	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**033**	**Date**	**Friday, 8 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	30	Yes
Toolbox Talks	4	100	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	26	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD	3
Recovery & deployment of SSS & Magnetometer x 2	3
Deployment of sparkers and streamers	7

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	201.0	1.6	0.0	199.4
Lubes (Ltr)	1340.0	0.0	0.0	1340.0
Water (cu.m)	79.0	3.0	5.0	81.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC: Person not wearing safety glasses on back-deck	
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**034**	**Date**	**Saturday, 9 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	01:46	01:46	Continued with: FPMainSeis60 - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	01:46	01:57	00:11	Line turn
DT	01:57	02:20	00:23	Online system SF NG crash
OPS.MCS	02:20	02:41	00:21	Line turn
OPS.MCS	02:41	06:19	03:38	SOL: **FPMainSeis57** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	06:19	06:25	00:06	Toolbox talk: Deployment and recovery of SVP
OPS.MCS	06:25	06:40	00:15	Sound velocity profile
OPS.MCS	06:40	06:55	00:15	Line turn
OPS.MCS	06:55	09:45	02:50	SOL: **FPMainSeis58** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	09:45	10:10	00:25	Line turn
OPS.MCS	10:10	12:56	02:46	SOL: **FPMainSeis55** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	12:56	13:28	00:32	Line turn
OPS.MCS	13:28	16:21	02:53	SOL: **FPMainSeis56** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	16:21	16:56	00:35	Line turn
OPS.MCS	16:56	21:11	04:15	SOL: **FPMainSeis54** - Hdg: 205° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox talk: Deployment and recovery of SVP. Sound velocity profile during line
OPS.MCS	21:11	21:43	00:32	Line turn
OPS.MCS	21:43	23:53	02:10	Re-run: **FPMainSeis56A** - Hdg: 025° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	23:53	24:00	00:07	Line turn. Continued overnight

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**034**	**Date**	**Saturday, 9 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	257.02	257.02
OPS.MCS	Operational Multichannel Seismic	23:37	23.62	260.22	283.83
DT	Equipment Downtime	00:23	0.38	27.02	27.40
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	28.18	28.18
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**781.00**	**805.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with UHRS operations. Switch to geophysical operations if UHRS operations are not possible

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**034**	**Date**	**Saturday, 9 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today (Pioneer)	122.0	**Survey Lines km to date (Pioneer)**	2456	**Total Project km (Pioneer)**	2839
Transit etc km today	11	**Transit etc km to date**	160	**Percentage to date**	86.52%
Survey Lines of VH km today	0.0	**Survey line km of VH to date**	161	**VH Lines KM remaining**	238.20

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30				
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0								
01-Apr	93.5	01-Apr	0								
02-Apr	142.6	02-Apr	0								
03-Apr	123.6	03-Apr	0								
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1019	S	3	0.5		
06:00	1018	S	4	0.5		
12:00	1016	SSE	4	1.0		
18:00	1014	SSE	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 30		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**034**	**Date**	**Saturday, 9 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	31	Yes
Toolbox Talks	2	102	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		26	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD x 2	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	199.4	1.8	0.0	197.6
Lubes (Ltr)	1340.0	0.0	0.0	1340.0
Water (cu.m)	81.0	4.0	5.0	82.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Dredging vessel "Charlock", undertook dredging operations on the eastern boundary of Block 4, to a distance of 1.5 km within the survey area, for approximately 3 x one hour periods. Clearly this will have a detrimental impact on MBES data already gathered at that location	We have had communications with the dredger and by all accounts they are operating in a Government concession area and so the discussion ended. There are cross lines and a small number of geophysical re runs to complete that may be impacted by these dredging operations. We monitor the dredgers' movements to and from the site, but there have been no further communications. I understand that our processor Noor needs to be crew changed by Wednesday. Looking at the weather forecasts from multiple sources the time to do this will be on Monday. After that it becomes a little uncertain, but there seems to be a good chance we will have a clear run through for 5 days or so when a large part of the remaining work could be completed.
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**035**	**Date**	**Sunday, 10 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:43	00:43	Continued with line turn
OPS.MCS	00:43	02:32	01:49	Re-run: **FPMainSeis54A** - Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	02:32	03:28	00:56	Line turn
OPS.MCS	03:28	05:01	01:33	Re-run: **FPMainSeis63A** - Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	05:01	06:24	01:23	Line turn. Approach to line aborted due to currents. Repeat line turn with longer run-in
OPS.MCS	06:24	08:51	02:27	Re-run: **FPX27A** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox talk: Deployment and recovery of SVP. Sound velocity profile during line
OPS.MCS	08:51	09:27	00:36	Line turn
OPS.MCS	09:27	09:46	00:19	Re-run: **FPMainSeis02A** - Hdg: 026° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	09:46	10:06	00:20	Line turn
OPS.MCS	10:06	10:16	00:10	Re-run: **FPMainSeis01A** - Hdg: 206° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	10:16	10:57	00:41	Line turn
OPS.MCS	10:57	11:41	00:44	Re-run: **FPMainSeis04A** - Hdg: 026° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	11:41	12:00	00:19	Line turn
OPS.MCS	12:00	12:29	00:29	Re-run: **FPMainSeis03A** - Hdg: 206° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	12:29	13:11	00:42	Line turn
OPS.MCS	13:11	14:27	01:16	Re-run: **FPMainSeis06A** - Hdg: 026° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	14:27	14:45	00:18	Line turn
OPS.MCS	14:45	15:27	00:42	Re-run: **FPMainSeis05A** - Hdg: 206° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	15:27	16:09	00:42	Line turn
OPS.MCS	16:09	17:30	01:21	Re-run: **FPMainSeis10A** - Hdg: 026° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	17:30	17:48	00:18	Line turn
OPS.MCS	17:48	19:13	01:25	Re-run: **FPMainSeis08A** - Hdg: 206° - (100 Spk, SingleCh Hydrophone)
				Toolbox talk: Recovery of MCH Streamer and 540 Tip Sparker
OPS.MCS	19:13	19:44	00:31	Line turn
OPS.MCS	19:44	21:22	01:38	Re-run: **FPMainSeis14A** - Hdg: 026° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	21:22	21:35	00:13	Line turn
OPS.MCS	21:35	23:09	01:34	Re-run: **FPMainSeis12A** - Hdg: 206° - (100 Spk, SingleCh Hydrophone)
OPS.MCS	23:09	23:32	00:23	Line turn
OPS.MCS	23:32	24:00	00:28	Re-run: **FPMainSeis15A** - Hdg: 026° - (100 Spk, SingleCh Hydrophone). Continued overnight

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**035**	**Date**	**Sunday, 10 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	1.92	1.92
OPS.GEO	Operational Geophysical	00:00	0.00	257.02	257.02
OPS.MCS	Operational Multichannel Seismic	24:00	24.00	283.83	307.83
DT	Equipment Downtime	00:00	0.00	27.40	27.40
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	28.18	28.18
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**805.00**	**829.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with UHRS operations. Switch to geophysical operations if UHRS operations are not possible

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**035**	**Date**	**Sunday, 10 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	0.0	**Survey Lines km to date (Pioneer)**	2456	**Total Project km (Pioneer)**	2839
Transit etc km today	3	**Transit etc km to date**	163	**Percentage to date**	86.52%
Survey Lines of VH km today	0.0	**Survey line km of VH to date**	161	**VH Lines KM remaining**	238.20

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30				
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0								
02-Apr	142.6	02-Apr	0								
03-Apr	123.6	03-Apr	0								
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1015	SW	3	1.0		
06:00	1017	SW	4	1.0		
12:00	1020	SW	2	0.5		
18:00	1020	SSE	5	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, N.Manaf, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (14)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		30
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**035**	**Date**	**Sunday, 10 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	32	Yes
Toolbox Talks	2	104	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	27	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD	3
Recovery of 540 Tip Sparker & MCH Streamer	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	197.6	1.9	0.0	195.7
Lubes (Ltr)	1340.0	0.0	0.0	1340.0
Water (cu.m)	82.0	4.0	4.0	82.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC: Back-strap not applied to internal shoes	
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**036**	**Date**	**Monday, 11 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	02:01	02:01	Continued with Re-run: **FPMainSeis15A** - Hdg: 026° - (100 Spk, SingleCh Hydrophone)
OPS.GEO	02:01	02:51	00:50	Heading to first geophysical line due to weather
OPS.GEO	02:51	02:58	00:07	Re-run: **FPMainNorthXL7I_1** - Hdg: 136° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:58	03:25	00:27	Line turn
OPS.GEO	03:25	03:37	00:12	Re-run: **FPMainNorth11I** - Hdg: 002° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:37	04:06	00:29	Line turn
OPS.GEO	04:06	06:35	02:29	Re-run: **FPMain57A** - Hdg: 206° - (MBES). Toolbox Talk: Deployment & recovery of CTD
OPS.GEO	06:35	06:45	00:10	Sound velocity profile
OPS.GEO	06:45	07:03	00:18	Line turn
OPS.GEO	07:03	07:13	00:10	Re-run: **FPMain37I** - Hdg: 026° - (MBES)
OPS.GEO	07:13	07:27	00:14	Line turn
OPS.GEO	07:27	07:37	00:10	Re-run: **FPMainSouth15I** - Hdg: 026° - (MBES)
OPS.GEO	07:37	07:59	00:22	Line turn
OPS.GEO	07:59	08:25	00:26	Re-run: **VHMainNorth17A** - Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	08:25	08:45	00:20	Line turn
OPS.GEO	08:45	08:50	00:05	Re-run: **FPMain50I**- Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	08:50	09:28	00:38	Line turn
OPS.GEO	09:28	10:08	00:40	Re-run: **VHMainNorth12A** - Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	10:08	10:28	00:20	Line turn
OPS.GEO	10:28	10:44	00:16	Re-run: **VHMainNorth06I** - Hdg: 026° - (MBES)
OPS.GEO	10:44	11:08	00:24	Line turn
OPS.GEO	11:08	11:21	00:13	Re-run: **FPSeis44I_2** - Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	11:21	11:45	00:24	Line turn
OPS.GEO	11:45	14:21	02:36	SOL: **FPMain44** - Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger).
OPS.GEO	14:21	14:25	00:04	Toolbox Talks: Recover of Sparker & Single CH hydrophone; Recovery of SSS & Magnetometer; Recovery of Moonpool Cart
OPS.GEO	14:25	14:50	00:25	Recovery of Sparker & Single CH hydrophone; Recovery of SSS & Magnetometer; Recovery of Moonpool Cart
TR	14:50	16:25	01:35	Transit to Scheveningen
PTC	16:25	17:20	00:55	Alongside Scheveningen to disembark one crew member
				- Draught measurements
TR	17:20	18:50	01:30	Transit to survey area. Toolbox Talks: Deployment of Moonpool Cart; Deployment and recovery of CTD
				Deployment of both Sparkers and Hydrophone. Deployment of SSS & Magnetometer
OPS.GEO	18:50	20:34	01:44	Sound velocity profile. Deployment of Moonpool Cart, 2 x Sparkers, MCH Streamer, Single hydrophone, SSS & Magnetometer
OPS.GEO	20:34	23:55	03:21	Re-run: **FPSeis50A** - Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
				Toolbox Talk: Deploy MCH Streamer. Deployed MCH Streamer
OPS.MCS	23:55	24:00	00:05	Head to next line for UHRS operations

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**036**	**Date**	**Monday, 11 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	03:05	3.08	1.92	5.00
OPS.GEO	Operational Geophysical	17:54	17.90	257.02	274.92
OPS.MCS	Operational Multichannel Seismic	02:06	2.10	307.83	309.93
DT	Equipment Downtime	00:00	0.00	27.40	27.40
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	28.18	28.18
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:55	0.92	0.00	0.92
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**829.00**	**853.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Commence and continue with UHRS operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**036**	**Date**	**Monday, 11 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	0.0	**Survey Lines km to date (Pioneer)**	2456	**Total Project km (Pioneer)**	2839
Transit etc km today	45	**Transit etc km to date**	208	**Percentage to date**	86.52%
Survey Lines of VH km today	21.0	**Survey line km of VH to date**	182	**VH Lines KM remaining**	217.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30				
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0								
03-Apr	123.6	03-Apr	0								
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1018	ENE	4	1.5		
06:00	1020	ENE	4	1.5		
12:00	1018	ESE	3	1.0		
18:00	1016	E	4	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**036**	**Date**	**Monday, 11 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	33	Yes
Toolbox Talks	8	112	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	28	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD x 2	3
Recovery of Sparker and Single Channel Streamer	4
Recovery of Moonpool Cart	4
Recovery of SSS & Magnetometer	4
Deployment of Moonpool Cart	4
Deployment of SSS & Magnetometer	4
Deployment of Sparkers and streamers	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	195.7	2.4	0.0	193.3
Lubes (Ltr)	1340.0	0.0	0.0	1340.0
Water (cu.m)	82.0	4.0	4.0	82.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC: Person stopped from walking into a restricted area without lifejacket	
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**037**	**Date**	**Tuesday, 12 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:16	00:16	Continued with heading to next line for UHRS operations
OPS.MCS	00:16	00:42	00:26	SOL: **FPX48** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	00:42	00:56	00:14	Line turn
OPS.MCS	00:56	01:05	00:09	SOL: **FPX49** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	01:05	01:33	00:28	Line turn
OPS.MCS	01:33	02:01	00:28	SOL: **FPX46** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	02:01	02:15	00:14	Line turn
OPS.MCS	02:15	02:41	00:26	SOL: **FPX47** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	02:41	03:01	00:20	Line turn
OPS.MCS	03:01	03:32	00:31	SOL: **FPX44** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	03:32	03:44	00:12	Line turn
OPS.MCS	03:44	04:12	00:28	SOL: **FPX45** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	04:12	04:31	00:19	Line turn
OPS.MCS	04:31	04:59	00:28	SOL: **FPX41** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	04:59	05:11	00:12	Line turn
OPS.MCS	05:11	05:39	00:28	SOL: **FPX43** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	05:39	05:58	00:19	Line turn
OPS.MCS	05:58	06:25	00:27	SOL: **FPX37** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	06:25	06:39	00:14	Line turn
OPS.MCS	06:39	07:07	00:28	SOL: **FPX39** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	07:07	07:22	00:15	Line turn
OPS.MCS	07:22	07:52	00:30	SOL: **FPX35** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	07:52	08:11	00:19	Line turn
OPS.MCS	08:11	08:41	00:30	Re-run: **FPX37A** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
SW.BL	08:41	09:31	00:50	Due to deterioration in the weather UHRS lines can only be run in a 296°. Extended line turn
OPS.MCS	09:31	10:02	00:31	Re-run: **FPX41A** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox talk for Sound velocity profile. Sound velocity profile
SW.BL	10:02	10:56	00:54	Due to deterioration in the weather UHRS lines can only be run in a 296°. Extended line turn
OPS.MCS	10:56	11:27	00:31	Re-run: **FPX44A** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.GEO	11:27	12:32	01:05	Switching to geophysical operations due to weather. Heading to next line. Plan adjusted due to fishing activity
OPS.GEO	12:32	13:52	01:20	Infill: **VHMain_infill_1** - Hdg: 202° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	13:52	14:07	00:15	Line turn
OPS.GEO	14:07	14:58	00:51	Infill: **VHMain_infill_2** - Hdg: 209° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	14:58	15:22	00:24	Line turn
OPS.GEO	15:22	15:39	00:17	Infill: **VHMain_infill_3** - Hdg: 209° - (SBES, MBES, SSS, Mag, Pinger)
				Fishing activity which includes anchored seabed fish-nets prevents UHRS operations on the four most southerly cross lines
OPS.MCS	15:39	16:11	00:32	Line turn
OPS.MCS	16:11	17:26	01:15	SOL: **FPX07** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	17:26	17:45	00:19	Line turn
OPS.MCS	17:45	18:44	00:59	SOL: **FPX05** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	18:44	19:19	00:35	Line turn
OPS.MCS	19:19	20:40	01:21	SOL: **FPX10** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	20:40	20:53	00:13	Line turn
OPS.MCS	20:53	22:08	01:15	SOL: **FPX09** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	22:08	22:30	00:22	Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.MCS	22:30	22:40	00:10	Line turn
OPS.MCS	22:40	23:00	00:20	SOL: **FPX13** - Hdg: 296°. EOL early due to online system SF NG Crash
DT	23:00	23:45	00:45	Reboot SF NG. Line turn
OPS.MCS	23:45	24:00	00:15	SOL: **FPX13A** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**037**	**Date**	**Tuesday, 12 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	5.00	5.00
OPS.GEO	Operational Geophysical	04:12	4.20	274.92	279.12
OPS.MCS	Operational Multichannel Seismic	17:19	17.32	309.93	327.25
DT	Equipment Downtime	00:45	0.75	27.40	28.15
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	01:44	1.73	28.18	29.92
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.92	0.92
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**853.00**	**877.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with UHRS operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**037**	**Date**	**Tuesday, 12 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	79.0	**Survey Lines km to date (Pioneer)**	2535	**Total Project km (Pioneer)**	2839
Transit etc km today	5	**Transit etc km to date**	213	**Percentage to date**	89.30%
Survey Lines of VH km today	0.0	**Survey line km of VH to date**	182	**VH Lines KM remaining**	217.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30				
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0	12-Apr	79.0	12-Apr	5				
03-Apr	123.6	03-Apr	0								
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1017	ESE	3	0.5		
06:00	1016	SE	3	0.5		
12:00	1017	SSW	4	1.0		
18:00	1017	W	2	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**037**	**Date**	**Tuesday, 12 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	34	Yes
Toolbox Talks	2	114	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		28	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD x 2	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	193.3	1.9	0.0	191.4
Lubes (Ltr)	1340.0	0.0	0.0	1340.0
Water (cu.m)	82.0	3.0	3.0	82.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Fishing activity which included anchored seabed fishing nets, prevented towed body operations on the four most southerly cross lines (FPX01, FPX02, FPX03 & FPX04). The fishing vessel, UK255, stated the fishing nets will not be recovered until the next bout of bad weather. Therefore the survey plan was modified to avoid the potential hazard of entanglement with towed bodies and fishing nets.	Fishing nets deployed in the South of our site just encroach onto the very eastern part of the first 4 cross lines. We already have coverage with MBES, SSS, magnetometer, SBP and sparkers so if we start to run out of time and the nets are still there the pragmatic approach would be to run these lines only with sparkers, SBP and MBES.
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**038**	**Date**	**Wednesday, 13 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	01:28	01:28	Continued with **FPX13A** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	01:28	01:51	00:23	Line turn
OPS.MCS	01:51	03:17	01:26	SOL: **FPX11** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	03:17	03:48	00:31	Line turn
OPS.MCS	03:48	04:04	00:16	SOL: **FP_Plat_B_01** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	04:04	04:33	00:29	Line turn
OPS.MCS	04:33	04:51	00:18	SOL: **FP_Plat_B_02** - Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	04:51	05:41	00:50	Line turn
OPS.MCS	05:41	07:44	02:03	SOL: **FPX17** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	07:44	08:00	00:16	Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.MCS	08:00	08:15	00:15	Line turn
OPS.MCS	08:15	10:06	01:51	SOL: **FPX14** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	10:06	10:24	00:18	Line turn
OPS.MCS	10:24	12:24	02:00	SOL: **FPX16** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	12:24	12:36	00:12	Line turn
OPS.MCS	12:36	14:31	01:55	SOL: **FPX15** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	14:31	14:53	00:22	Line turn
OPS.MCS	14:53	17:10	02:17	SOL: **FPX19** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	17:10	17:25	00:15	Line turn
OPS.MCS	17:25	19:30	02:05	SOL: **FPX18** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	19:30	19:58	00:28	Line turn
OPS.MCS	19:58	22:03	02:05	SOL: **FPX22** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Last 3 km of line (KP 3 to KP 00) ran with SSS & Magnetometer flying high to avoid entanglement of seabed anchored fishing nets
OPS.MCS	22:03	22:19	00:16	Line turn
OPS.MCS	22:19	23:27	01:08	Re-run: **FPX20A** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str). KP 00 to KP 9.5
				First 2.6 km of line (KP 00 to KP 2.6) ran with SSS & Magnetometer flying high to avoid entanglement of seabed anchored fishing nets
OPS.MCS	23:27	23:45	00:18	Toolbox talk for Sound velocity profile. Sound velocity profile. Line Turn
OPS.MCS	23:45	24:00	00:15	SOL: **FP_Plat_A_01** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**038**	**Date**	**Wednesday, 13 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	5.00	5.00
OPS.GEO	Operational Geophysical	00:00	0.00	279.12	279.12
OPS.MCS	Operational Multichannel Seismic	24:00	24.00	327.25	351.25
DT	Equipment Downtime	00:00	0.00	28.15	28.15
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	29.92	29.92
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.92	0.92
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**877.00**	**901.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with UHRS operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**038**	**Date**	**Wednesday, 13 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	143.1	**Survey Lines km to date (Pioneer)**	2678	**Total Project km (Pioneer)**	2839
Transit etc km today	4	**Transit etc km to date**	217	**Percentage to date**	94.34%
Survey Lines of VH km today	0.0	**Survey line km of VH to date**	182	**VH Lines KM remaining**	217.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30				
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0	12-Apr	79.0	12-Apr	5				
03-Apr	123.6	03-Apr	0	13-Apr	143.1	13-Apr	4				
04-Apr	23.9	04-Apr	0								
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1017	SE	3	0.5		
06:00	1017	SE	3	0.3		
12:00	1017	SSE	2	0.2		
18:00	1017	W	2	0.2		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**038**	**Date**	**Wednesday, 13 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	35	Yes
Toolbox Talks	2	116	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	29	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD x 2	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	191.4	1.9	0.0	189.5
Lubes (Ltr)	1340.0	60.0	0.0	1280.0
Water (cu.m)	82.0	3.0	4.0	83.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC: Paper found close to electrical power socket	I understand that FSBV will be checking the bathymetry DTM in the office tomorrow (Thursday) for any gaps in the data. This is critically important and we will be unable to leave site without this confirmation.
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**039**	**Date**	**Thursday, 14 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:29	00:29	Continued with **Line turn**
OPS.MCS	00:29	00:45	00:16	SOL: **FP_Plat_A_02** - Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	00:45	01:15	00:30	Line turn
OPS.MCS	01:15	02:27	01:12	Re-run: **FPX20B** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str). KP 7.6 to KP 17.2
OPS.MCS	02:27	03:17	00:50	Line turn
OPS.MCS	03:17	05:20	02:03	SOL: **FPX28** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	05:20	05:49	00:29	Line turn
OPS.MCS	05:49	08:04	02:15	Re-run: **FPX24A** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	08:04	08:42	00:38	Line turn
OPS.MCS	08:42	10:34	01:52	SOL: **FPX30** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.MCS	10:34	10:56	00:22	Line turn
OPS.MCS	10:56	12:55	01:59	SOL: **FPX29** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	12:55	13:19	00:24	Line turn
OPS.MCS	13:19	14:52	01:33	SOL: **FPX32** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	14:52	15:10	00:18	Line turn
OPS.MCS	15:10	16:51	01:41	SOL: **FPX31** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	16:51	17:14	00:23	Line turn
OPS.MCS	17:14	17:42	00:28	Re-run: **FPX35A** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	17:42	18:26	00:44	Line turn
OPS.MCS	18:26	20:01	01:35	SOL: **FPX33** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.MCS	20:01	20:30	00:29	Line turn
OPS.MCS	20:30	21:01	00:31	SOL: **FPX34** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	21:01	21:13	00:12	Line turn
OPS.MCS	21:13	21:36	00:23	SOL: **FPX38** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	21:36	21:52	00:16	Line turn
OPS.MCS	21:52	22:21	00:29	SOL: **FPX36** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	22:21	22:38	00:17	Line turn
OPS.MCS	22:38	22:48	00:10	SOL: **FPX42** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	22:48	23:04	00:16	Line turn
OPS.MCS	23:04	23:21	00:17	SOL: **FPX40** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	23:21	24:00	00:39	Line turn. Continued overnight

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**039**	**Date**	**Thursday, 14 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	5.00	5.00
OPS.GEO	Operational Geophysical	00:00	0.00	279.12	279.12
OPS.MCS	Operational Multichannel Seismic	24:00	24.00	351.25	375.25
DT	Equipment Downtime	00:00	0.00	28.15	28.15
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	29.92	29.92
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.92	0.92
ADD				0.00	
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**901.00**	**925.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with UHRS operations, followed by Geophysical operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**039**	**Date**	**Thursday, 14 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	114.0	**Survey Lines km to date (Pioneer)**	2792	**Total Project km (Pioneer)**	2839
Transit etc km today	9	**Transit etc km to date**	226	**Percentage to date**	98.36%
Survey Lines of VH km today	0.0	**Survey line km of VH to date**	182	**VH Lines KM remaining**	217.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30				
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0	12-Apr	79.0	12-Apr	5				
03-Apr	123.6	03-Apr	0	13-Apr	143.1	13-Apr	4				
04-Apr	23.9	04-Apr	0	14-Apr	114.0	14-Apr	9				
05-Apr	105.8	05-Apr	0								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1019	SSW	2	0.2		
06:00	1019	SSW	3	0.2		
12:00	1020	SSW	2	0.2		
18:00	1020	NW	2	0.2		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Caludius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**039**	**Date**	**Thursday, 14 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	36	Yes
Toolbox Talks	2	118	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		29	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD x 2	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	189.5	1.7	0.0	187.8
Lubes (Ltr)	1280.0	0.0	0.0	1280.0
Water (cu.m)	83.0	4.0	5.0	84.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**040**	**Date**	**Friday, 15 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.MCS	00:00	00:39	00:39	Continued with Line turn.
OPS.MCS	00:39	00:51	00:12	Re-run: **FPSeis59A** - Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	00:51	01:14	00:23	Line turn
OPS.MCS	01:14	04:15	03:01	Infill: **FPSeis59I** - Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger,)
OPS.MCS	04:15	04:32	00:17	Line turn
OPS.MCS	04:32	05:29	00:57	SOL: **FPX04** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	05:29	05:44	00:15	Line turn
OPS.MCS	05:44	06:28	00:44	SOL: **FPX03** - Hdg: 116° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	06:28	07:09	00:41	Toolbox talk for Recovery of SSS & Magnetometer. Recovered SSS & Magnetometer in line turn due to seabed fishing nets
OPS.MCS	07:09	07:29	00:20	SOL: **FPX01** - Hdg: 296° - (SBES, MBES, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Line run without SSS & Magnetometer to avoid entanglement due to fishing vessels recovering seabed nets
OPS.MCS	07:29	07:59	00:30	Line turn
OPS.MCS	07:59	08:21	00:22	SOL: **FPX02** - Hdg: 116° - (SBES, MBES,Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Line run without SSS & Magnetometer to avoid entanglement due to fishing vessels recovering seabed nets
OPS.MCS	08:21	09:08	00:47	Line turn
OPS.MCS	09:08	09:44	00:36	Re-run: **FPX02A** - Hdg: 116° - (SBES, MBES,Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
				Line run without SSS & Magnetometer to avoid entanglement due to fishing vessels recovering seabed nets
OPS.MCS	09:44	10:18	00:34	Line turn. Toolbox talk for Sound velocity profile & deployment of SSS & Magnetometer. Sound velocity profile & deployment
				of SSS & Magnetometer
OPS.MCS	10:18	14:27	04:09	SOL: **FPX06 Tie line** - Hdg: 296° - (SBES, MBES, SSS, Mag, Pinger,100 Spk, SingleCh Hydrophone, 540 Spk, MCh Str)
OPS.MCS	14:27	15:05	00:38	UHRS Processors checking data.
				Toolbox talk for Recovery and deployment of SSS & Magnetometer. Recovery and deployment of SSS & Magnetometer
OPS.MCS	15:05	15:40	00:35	Toolbox talk for Recovery Sparkers, Hydrophone & Streamer. Recovered both Sparkers, Hydrophone & Streamer
OPS.GEO	15:40	17:20	01:40	Head to main survey area to resume geophysical operations. Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.GEO	17:20	17:24	00:04	Infill: **MBES_Infill_3 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:24	17:41	00:17	Line turn
OPS.GEO	17:41	17:46	00:05	SOL: **VHMainSouth34 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:46	17:56	00:10	Line turn
OPS.GEO	17:56	18:06	00:10	SOL: **VHMainSouth32 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:06	18:16	00:10	Line turn
OPS.GEO	18:16	18:30	00:14	SOL: **VHMainSouth30 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:30	18:42	00:12	Line turn
OPS.GEO	18:42	18:59	00:17	SOL: **VHMainSouth28 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:59	19:08	00:09	Line turn
OPS.GEO	19:08	19:30	00:22	SOL: **VHMainSouth26 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	19:30	19:40	00:10	Line turn
OPS.GEO	19:40	20:06	00:26	SOL: **VHMainSouth24 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:06	20:16	00:10	Line turn
OPS.GEO	20:16	20:46	00:30	SOL: **VHMainSouth22 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:46	20:58	00:12	line turn
OPS.GEO	20:58	21:32	00:34	SOL: **VHMainSouth20 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	21:32	21:43	00:11	Line turn
OPS.GEO	21:43	22:22	00:39	SOL: **VHMainSouth18 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:22	22:34	00:12	Line turn
OPS.GEO	22:34	23:17	00:43	SOL: **VHMainSouth16 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	23:17	23:29	00:12	Line turn
OPS.GEO	23:29	24:00	00:31	SOL: **VHMainSouth14 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger). Continued overnight

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**040**	**Date**	**Friday, 15 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	5.00	5.00
OPS.GEO	Operational Geophysical	08:20	8.33	279.12	287.45
OPS.MCS	Operational Multichannel Seismic	15:40	15.67	375.25	390.92
DT	Equipment Downtime	00:00	0.00	28.15	28.15
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	29.92	29.92
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	118.38	118.38
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.92	0.92
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**24:00**	**24.00**	**925.00**	**949.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with Geophysical operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**040**	**Date**	**Friday, 15 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	49.0	**Survey Lines km to date (Pioneer)**	2841	**Total Project km (Pioneer)**	2839
Transit etc km today	25	**Transit etc km to date**	251	**Percentage to date**	100.08%
Survey Lines of VH km today	31.0	**Survey line km of VH to date**	213	**VH Lines KM remaining**	186.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30				
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0	12-Apr	79.0	12-Apr	5				
03-Apr	123.6	03-Apr	0	13-Apr	143.1	13-Apr	4				
04-Apr	23.9	04-Apr	0	14-Apr	114.0	14-Apr	9				
05-Apr	105.8	05-Apr	0	15-Apr	80.0	15-Apr	25				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1016	NE	3	0.5		
06:00	1014	S	3	0.5		
12:00	1011	SW	3	0.5		
18:00	1010	SSW	3	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**040**	**Date**	**Friday, 15 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	37	Yes
Toolbox Talks	6	124	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	30	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD x 2	3
Recovery of SSS & Magnetometer	3
Deployment of SSS & Magnetometer	4
Recovery & Deployment of SSS & Magnetometer	4
Recovery of both Sparkers, Streamer & Hydrophone	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	187.8	1.9	0.0	185.9
Lubes (Ltr)	1280.0	0.0	0.0	1280.0
Water (cu.m)	84.0	4.0	5.0	85.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
1 x HOC: TV left switch-on in empty room and empty cups left on table	Fugro Pioneer has completed seismic operations in what is increasingly looking like the last weather opportunity for this work in at least the next week or so. We have been carefully checking through the DTM on the vessel to ensure there are no gaps and I understand FSBV office are going to give us final confirmation tomorrow. In addition all of the other data is being checked on a daily basis and a very small number of gaps have been found, which are added to the re run list.
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**041**	**Date**	**Saturday, 16 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:15	00:15	Continued with **VHMainSouth14** - Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	00:15	00:24	00:09	Line turn
OPS.GEO	00:24	01:18	00:54	SOL: **VHMainSouth12 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:18	01:29	00:11	Line turn
OPS.GEO	01:29	02:22	00:53	SOL: **VHMainSouth10 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:22	02:32	00:10	Line turn
OPS.GEO	02:32	03:27	00:55	SOL: **VHMainSouth08 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:27	03:35	00:08	Line turn
OPS.GEO	03:35	04:32	00:57	SOL: **VHMainSouth06 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	04:32	04:47	00:15	Line turn
OPS.GEO	04:47	05:51	01:04	SOL: **VHMainSouth04 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	05:51	06:00	00:09	Line turn
SW.AL	06:00	07:07	01:07	SOL: **VHMainSouth02 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger). Line rejected for MBES & Pinger data due to weather
OPS.GEO	07:07	07:17	00:10	Line turn
OPS.GEO	07:17	08:23	01:06	SOL: **VHMainSouth05 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	08:23	08:35	00:12	Line turn
SW.AL	08:35	09:48	01:13	SOL: **VHMainSouth01 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger). Line rejected for MBES & Pinger data due to weather
SW.AL	09:48	09:57	00:09	Line turn
SW.AL	09:57	11:08	01:11	Re-run: **VHMainSouth02A -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger). Line rejected for MBES & Pinger data due to weather
SW.AL	11:08	11:19	00:11	Line turn
SW.AL	11:19	11:41	00:22	SOL: **VHMainSouth03 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger). Line aborted due to weather
SW.AL	11:41	12:27	00:46	Pinger data not acceptable in both line directions. MBES data currently acceptable in Hdg: 026°. Heading to MBES infill
OPS.GEO	12:27	12:38	00:11	Re-run: **VHMainSouth026I -** Hdg: 026° - (MBES)
SW.AL	12:38	13:11	00:33	Due to weather conditions MBES acquisition only suitable in northerly direction. Extended line turn
OPS.GEO	13:11	13:42	00:31	Re-run: **VHMainSouth024A -** Hdg: 026° - (MBES)
SW.AL	13:42	14:17	00:35	Line turn
SW.AL	14:17	14:28	00:11	Re-run: **VHMainSouth02A -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger). Line rejected for Pinger data due to weather
SW.AL	14:28	15:13	00:45	Changed operational priorities due to unacceptable Pinger data due to weather. Head to nearest re-run
OPS.GEO	15:13	15:54	00:41	Re-run: **FPX02B** - Hdg: 116° - (SSS & Mag)
OPS.GEO	15:54	16:05	00:11	Line turn
OPS.GEO	16:05	16:27	00:22	Re-run: **FPX01A** - Hdg: 026° - (MBES, SSS & Mag)
OPS.GEO	16:27	16:49	00:22	Line turn
OPS.GEO	16:49	17:05	00:16	Re-run: **FPSeis43I** - Hdg: 026° - (MBES, SSS & Mag)
OPS.GEO	17:05	17:16	00:11	Line turn
OPS.GEO	17:16	17:28	00:12	Re-run: **FPSeis44I** - Hdg: 206° - (MBES, SSS & Mag)
OPS.GEO	17:28	17:44	00:16	Line turn
OPS.GEO	17:44	17:58	00:14	Re-run: **FPX01I** - Hdg: 116° - (MBES, SS & Mag)
OPS.GEO	17:58	18:17	00:19	Line turn
OPS.GEO	18:17	22:24	04:07	Re-run: **FPSeis51A** - Hdg: 026° - (MBES, SSS & Mag)
				Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.GEO	22:24	22:36	00:12	Line turn
OPS.GEO	22:36	23:10	00:34	Re-run: **FPMain28I** - Hdg: 207° - (MBES, SSS & Mag)
OPS.GEO	23:10	23:36	00:26	Line turn
OPS.GEO	23:36	23:47	00:11	Re-run: **FPMainNorthXL7I_2** - Hdg: 297° - (MBES, SSS & Mag)
OPS.GEO	23:47	24:00	00:13	Line turn. Continued overnight

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**041**	**Date**	**Saturday, 16 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	5.00	5.00
OPS.GEO	Operational Geophysical	16:57	16.95	287.45	304.40
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	390.92	390.92
DT	Equipment Downtime	00:00	0.00	28.15	28.15
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	29.92	29.92
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	07:03	7.05	118.38	125.43
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.92	0.92
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**949.00**	**973.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Continue with Geophysical operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: **Survey:**	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**041**	**Date**	**Saturday, 16 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	0.0	**Survey Lines km to date (Pioneer)**	2841	**Total Project km (Pioneer)**	2839
Transit etc km today	9	**Transit etc km to date**	260	**Percentage to date**	100.08%
Survey Lines of VH km today	54.0	**Survey line km of VH to date**	267	**VH Lines KM remaining**	132.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30	16-Apr	54.0	16-Apr	9
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30				
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0	12-Apr	79.0	12-Apr	5				
03-Apr	123.6	03-Apr	0	13-Apr	143.1	13-Apr	4				
04-Apr	23.9	04-Apr	0	14-Apr	114.0	14-Apr	9				
05-Apr	105.8	05-Apr	0	15-Apr	80.0	15-Apr	25				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1007	SE	3	1.0		
06:00	1002	SW	3	2.0		
12:00	1007	WSW	3	2.5		
18:00	1012	WNW	5	2.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**041**	**Date**	**Saturday, 16 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	38	Yes
Toolbox Talks	1	125	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		30	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	185.9	1.9	0.0	184.0
Lubes (Ltr)	1280.0	60.0	0.0	1220.0
Water (cu.m)	85.0	4.0	5.0	86.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
	Despite difficult weather conditions throughout the day crew tried everything but give up. A positive attitude and determination resulted in a productive day. Well done everyone
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**042**	**Date**	**Sunday, 17 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:01	00:01	Continued with Line turn
OPS.GEO	00:01	00:12	00:11	Re-run: **FPMainNorthXL7I_2A** - Hdg: 117° - (MBES, SSS & Mag)
OPS.GEO	00:12	00:37	00:25	Line turn
OPS.GEO	00:37	01:34	00:57	Infill: **MBES_Infill_1** - Hdg: 205° - (MBES)
OPS.GEO	01:34	02:17	00:43	Line turn
OPS.GEO	02:17	03:16	00:59	Re-run: **FPSeis60I_2** - Hdg: 026° - (MBES, SSS & Mag)
OPS.GEO	03:16	03:21	00:05	Line turn
OPS.GEO	03:21	03:28	00:07	Re-run: **FPSeis59I** - Hdg: 026° - (MBES, SSS & Mag)
OPS.GEO	03:28	03:34	00:06	Line turn
OPS.GEO	03:34	04:00	00:26	Re-run: **FPSeis60I_2A** - Hdg: 206° - (MBES, SSS & Mag)
OPS.GEO	04:00	04:01	00:01	Line turn
OPS.GEO	04:01	04:16	00:15	Re-run: **FPSeis60I_1** - Hdg: 206° - (MBES, SSS & Mag)
OPS.GEO	04:16	05:06	00:50	Line turn
OPS.GEO	05:06	05:50	00:44	Re-run: **VHMain41A** - Hdg: 206° - (MBES, SSS & Mag)
OPS.GEO	05:50	05:52	00:02	Line turn
OPS.GEO	05:52	05:57	00:05	Infill: **MBES_Infill_1** - Hdg: 205° - (MBES)
OPS.GEO	05:57	06:14	00:17	Line turn
OPS.GEO	06:14	06:21	00:07	Re-run: **FPSeis48I** - Hdg: 026° - (MBES, SSS & Mag)
OPS.GEO	06:21	06:32	00:11	Line turn
OPS.GEO	06:32	06:40	00:08	Re-run: **FPSeis48I_A** - Hdg: 206° - (MBES, SSS & Mag)
OPS.GEO	06:40	07:10	00:30	Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.GEO	07:10	08:20	01:10	SOL: **VHMainSouth03A -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	08:20	08:31	00:11	Line turn
OPS.GEO	08:31	09:43	01:12	SOL: **VHMainSouth01A -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	09:43	09:57	00:14	Line turn
OPS.GEO	09:57	12:38	02:41	SOL: **VHMain46 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	12:38	12:47	00:09	Line turn
OPS.GEO	12:47	15:29	02:42	SOL: **VHMain47 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	15:29	15:35	00:06	Line turn
OPS.GEO	15:35	16:18	00:43	SOL: **VHMainSouth02B -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	16:18	16:27	00:09	Line turn
OPS.GEO	16:27	16:31	00:04	Infill: **MBES_Infill_5** - Hdg: 205° - (MBES)
OPS.GEO	16:31	16:37	00:06	Line turn
OPS.GEO	16:37	17:08	00:31	SOL: **VHMainSouth02B -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	17:08	17:19	00:11	Line turn
OPS.GEO	17:19	18:21	01:02	SOL: **VHMainSouth07 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	18:21	18:30	00:09	Line turn
OPS.GEO	18:30	19:26	00:56	SOL: **VHMainSouth09 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	19:26	19:34	00:08	Toolbox talk for Sound velocity profile. Sound velocity profile
OPS.GEO	19:34	20:29	00:55	SOL: **VHMainSouth11 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	20:29	20:38	00:09	Line turn
OPS.GEO	20:38	21:28	00:50	SOL: **VHMainSouth13 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	21:28	21:36	00:08	Line turn
OPS.GEO	21:36	22:02	00:26	SOL: **VHMainSouth15 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	22:02	22:32	00:30	Line turn
OPS.GEO	22:32	23:14	00:42	SOL: **VHMainSouth17 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	23:14	23:22	00:08	Line turn
OPS.GEO	23:22	24:00	00:38	SOL: **VHMainSouth19 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**042**	**Date**	**Sunday, 17 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	00:00	0.00	5.00	5.00
OPS.GEO	Operational Geophysical	24:00	24.00	304.40	328.40
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	390.92	390.92
DT	Equipment Downtime	00:00	0.00	28.15	28.15
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	29.92	29.92
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	125.43	125.43
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.92	0.92
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**973.00**	**997.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Complete Geophysical operations. Check weather for Single Channel operations. Complete GH176. Transit to Den Helder

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**042**	**Date**	**Sunday, 17 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	0.0	**Survey Lines km to date (Pioneer)**	2841	**Total Project km (Pioneer)**	2839
Transit etc km today	3	**Transit etc km to date**	263	**Percentage to date**	100.08%
Survey Lines of VH km today	114.0	**Survey line km of VH to date**	381	**VH Lines KM remaining**	18.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30	16-Apr	54.0	16-Apr	9
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30	17-Apr	114.0	17-Apr	3
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7				
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0	12-Apr	79.0	12-Apr	5				
03-Apr	123.6	03-Apr	0	13-Apr	143.1	13-Apr	4				
04-Apr	23.9	04-Apr	0	14-Apr	114.0	14-Apr	9				
05-Apr	105.8	05-Apr	0	15-Apr	80.0	15-Apr	25				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1015	WNW	5	1.5		
06:00	1015	NW	4	1.5		
12:00	1020	NW	3	1.5		
18:00	1024	NW	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**042**	**Date**	**Sunday, 17 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	39	Yes
Toolbox Talks	2	127	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		30	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD x 2	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	184.0	1.9	0.0	182.1
Lubes (Ltr)	1220.0	0.0	0.0	1220.0
Water (cu.m)	86.0	4.0	5.0	87.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski 29		
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord		

DOR No.	**043**	**Date**	**Monday, 18 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:08	00:08	Line turn
OPS.GEO	00:08	00:41	00:33	SOL: **VHMainSouth21 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	00:41	00:50	00:09	Line turn
OPS.GEO	00:50	01:20	00:30	SOL: **VHMainSouth23 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:20	01:26	00:06	Line turn
OPS.GEO	01:26	01:52	00:26	SOL: **VHMainSouth25 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	01:52	01:59	00:07	Line turn
OPS.GEO	01:59	02:21	00:22	SOL: **VHMainSouth27 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:21	02:27	00:06	Line turn
OPS.GEO	02:27	02:43	00:16	SOL: **VHMainSouth29 -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	02:43	02:52	00:09	Line turn
OPS.GEO	02:52	03:04	00:12	SOL: **VHMainSouth31 -** Hdg: 026° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:04	03:12	00:08	Line turn
OPS.GEO	03:12	03:21	00:09	SOL: **VHMainSouth33A -** Hdg: 206° - (SBES, MBES, SSS, Mag, Pinger)
OPS.GEO	03:21	03:56	00:35	Line turn
OPS.GEO	03:56	04:00	00:04	Infill: **MBES_Infill_2** - Hdg: 026° - (MBES)
OPS.GEO	04:00	04:57	00:57	Line turn
OPS.GEO	04:57	05:03	00:06	Infill: **MBES_Infill_6** - Hdg: 026° - (MBES)
OPS.GEO	05:03	05:34	00:31	
OPS.GEO	05:34	05:39	00:05	Infill: **MBES_Infill_7** - Hdg: 026° - (MBES)
OPS.GEO	05:39	05:40	00:01	Toolbox talk for Sound velocity profile & recovery of SSS & Magnetometer
OPS.GEO	05:40	05:55	00:15	Recovered SSS & Magnetometer
OPS.GEO	05:55	06:10	00:15	Sound velocity profile
OPS.GEO	06:10	06:15	00:05	Recovered HiPAP
OPS.GEO	06:15	06:25	00:10	Data has been confirmed for quality amd quantity for GH176. Weather conditions for 3 x possible re-runs of single channel
				UHRS for possible due to weather
OPS.GEO	06:25	06:35	00:10	Toolbox talk for recovery of Moonpool Cart. Recovered Moonpool Cart
TR	06:35	13:40	07:05	Transit to Den Helder
	13:40			Alongside Den Helder. Switched projects to GH174 - BBL PINS

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**043**	**Date**	**Monday, 18 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	57.00	57.00
CAL	Calibrations	00:00	0.00	29.83	29.83
TR	Transit to/from work site	07:05	7.08	5.00	12.08
OPS.GEO	Operational Geophysical	06:35	6.58	328.40	334.98
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	390.92	390.92
DT	Equipment Downtime	00:00	0.00	28.15	28.15
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	29.92	29.92
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	125.43	125.43
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.92	0.92
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	1.43	1.43
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
Totals		**13:40**	**13.67**	**997.00**	**1010.67**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**043**	**Date**	**Monday, 18 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
07/03/2016	18/04/2016	Completed Geophysical Site Survey Hollandse Kust Zuid Wind Farm Zone (I, II, III & IV)

Work Scope Completed To Date					
Virgin Survey Lines km today (Pioneer)	0.0	**Survey Lines km to date (Pioneer)**	2841	**Total Project km (Pioneer)**	2839
Transit etc km today	89	**Transit etc km to date**	352	**Percentage to date**	100.08%
Survey Lines of VH km today	18.0	**Survey line km of VH to date**	399	**VH Lines KM remaining**	0.00

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
27-Mar	0	27-Mar	0	06-Apr	36.3	06-Apr	30	16-Apr	54.0	16-Apr	9
28-Mar	0	28-Mar	0	07-Apr	10.6	07-Apr	30	17-Apr	114.0	17-Apr	3
29-Mar	0	29-Mar	30	08-Apr	135.0	08-Apr	7	18-Apr	18.0	18-Apr	89
30-Mar	51.0	30-Mar	0	09-Apr	122.0	09-Apr	11				
31-Mar	93.8	31-Mar	0	10-Apr	0.0	10-Apr	3				
01-Apr	93.5	01-Apr	0	11-Apr	21.0	11-Apr	45				
02-Apr	142.6	02-Apr	0	12-Apr	79.0	12-Apr	5				
03-Apr	123.6	03-Apr	0	13-Apr	143.1	13-Apr	4				
04-Apr	23.9	04-Apr	0	14-Apr	114.0	14-Apr	9				
05-Apr	105.8	05-Apr	0	15-Apr	80.0	15-Apr	25				

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1027	SW	3	1.0		
06:00	1027	SW	4	1.0		
12:00	1027	SW	3	1.5		
18:00	N/A	N/A	N/A	N/A		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Fugro Pioneer
Location	North Sea, Dutch Sector	**Time Zone**	UTC +2 hrs
Personnel: Survey:	P.Miller, J.Claudius, B.Luckhoo, G.Cupido, C. Caielli, M.Volterrani, Y.C.Tan, R.Roepnarain, D.Caccialino, P.Wright, M.Civalleri, E.Piazza, R. Knook, (13)		
Marine:	O.Burdin, M. Aleksandrov, S.Galcenkov, L. Villamor, V. Pudinskas, R. Andalis, C. Satnoianu, R.Plaza, F.Descutido, J.Garcia, P.Ferrer, G.Ragasa, R.Lambo, L.Desingano, C.Coady (15)		
Client:	P.Kitlowski		29
Equipment	Starpack, Sub-sea Octans Gyrocompass, Hydrins, Edgetech 4200 Digital SSS System, Starfix.Seis, Kongsberg EM2040 Echo Sounder, Kongsberg EA400 Echo Sounder, 4x4 Massa TR-1075 Hull mounted pinged Array - STR Digital Sub-Bottom Transceiver, SD204 CTD Probe, Geometrics G882 Magnetometer, Kongsberg HiPAP 501, GeoEel Solid Streamer, 360 tip Sparker, GSO 540 tip Sparker, GSO 24 Channel Element Single Channel Hydrophone		
E-Mail Recipients	Fugro:	Project Management Team; J. Chisholm; V.Minorenti; I. Josselin; FOSPA	
	Client:	Ben de Sonneville; Frank van Erp; Ruud de Bruijne, Saskia van Loozenoord	

DOR No.	**043**	**Date**	**Monday, 18 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		15	No	Vessel Coordination Meeting	1	40	Yes
Toolbox Talks	3	130	Yes	Safety Meeting		2	Yes
Reportable Incident		1	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		30	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		10	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		2	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Vessel Coordination TBT: Weather observations and outlook, QHSE , Survey/ Marine operations for last 24 hours, Survey / Marine operations for next 24 hours, AOB	3
Deployment & recovery of CTD	3
Recovery of SSS & Magnetometer	3
Recovery of Moonpool Cart	3

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	182.1	2.5	0.0	179.6
Lubes (Ltr)	1220.0	40.0	0.0	1180.0
Water (cu.m)	87.0	2.0	1.0	86.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
	Thank you to all the crew for their hard work and effort over the last few weeks. I have very much enjoyed working with these people. They are professional, hardworking and have maintained high standards in all aspects of this project.
Party Chief Signature	**Client Representative Signature**
Paul Miller - Party Chief - Fugro Pioneer	Peter Kitlowski- Client Representative on-board Fugro Pioneer

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B.2 DAILY OPERATIONS REPORTS MV VICTOR HENSEN

(72 pages, not numbered)

DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondememend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar (8)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		17
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**001**	**Date**	**Thursday, 17 March 2016**

Diary Of Events

Code	From	To	Period	Description
M/D	00:00	24:00	24:00	Alongside Rotterdam for mobilisation
				- mobilisation of equipment
				- harbour calibrations
				- client representative joining vessel

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar (8)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		17
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**001**	**Date**	**Thursday, 17 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	24:00	24.00	0.00	24.00
CAL	Calibrations	00:00	0.00	0.00	0.00
TR	Transit to/from work site	00:00	0.00	0.00	0.00
OPS.GEO	Operational Geophysical	00:00	0.00	0.00	0.00
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	0.00	0.00
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional	00:00	0.00	0.00	0.00
AD.C	Additional	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**0.00**	**24.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
0000	1100	Continue Mobilisation, and Harbour calibrations
1100	1300	Project Kick off Meeting
1300	2400	Continue Mobilisation, and Harbour calibrations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar (8)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		17
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	001	**Date**	**Thursday, 17 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	1344
Transit etc km today	0	**Transit etc km to date**	0	**Percentage to date**	0.00%

Survey Lines		Transit etc.		Survey Lines		Transit etc.		Survey Lines		Transit etc.	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00						In port
06:00						In port
12:00						In port
18:00						In port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar (8)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		17
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	001	**Date**	**Thursday, 17 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		5	No	Vessel Coordination Meeting		0	Yes
Toolbox Talks		0	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		0	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		0	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	9.1	0.2	30.0	38.9
Lubes (l.tr)	500.0	0.0	0.0	500.0
Water (cu.m)	17.0	3.0	20.0	34.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	002	**Date**	**Friday, 18 March 2016**

Diary Of Events

Code	From	To	Period	Description
M/D	00:00	11:00	11:00	Alongside Rotterdam for mobilisation
				- mobilisation of equipment
				- harbour calibrations
M/D	11:00	13:00	02:00	Kick-off meeting
M/D	13:00	24:00	11:00	Alongside Rotterdam for mobilisation
				- mobilisation of equipment
				- harbour calibrations
				- visit of RVO management on the vessel

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	002	**Date**	**Friday, 18 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	24.00	24.00	24.00	48.00
CAL	Calibrations	00.00	0.00	0.00	0.00
TR	Transit to/from work site	00.00	0.00	0.00	0.00
OPS.GEO	Operational Geophysical	00.00	0.00	0.00	0.00
OPS.MCS	Operational Multichannel Seismic	00.00	0.00	0.00	0.00
DT	Equipment Downtime	00.00	0.00	0.00	0.00
VDT	Vessel Downtime	00.00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00.00	0.00	0.00	0.00
S/O	Standby Other	00.00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00.00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00.00	0.00	0.00	0.00
EM	Equipment Maintenance	00.00	0.00	0.00	0.00
PTC	Port Call	00.00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00.00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00.00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00.00	0.00	0.00	0.00
WOC	Waiting on Client	00.00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00.00	0.00	0.00	0.00
AD.B	Additional	00.00	0.00	0.00	0.00
AD.C	Additional	00.00	0.00	0.00	0.00
	Totals	**24.00**	**24.00**	**24.00**	**48.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
0000	10:00	Continue Mobilisation
10:00	11:00	Departure from Rotterdam, transit to Maeslantkering
11:00	13:00	Absolute depth check at Maeslantkering
13:00	16:00	Transit to survey area for offshore calibrations
16:00	24:00	Offshore calibrations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	002	**Date**	**Friday, 18 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	1344
Transit etc km today	0	**Transit etc km to date**	0	**Percentage to date**	0.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00						In Port
06:00						In Port
12:00						In Port
18:00						In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	002	**Date**	**Friday, 18 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction	5	10	No	Vessel Coordination Meeting		0	Yes
Toolbox Talks		0	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		0	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit	3	3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	38.9	0.3	0.0	38.6
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	34.0	3.0	0.0	31.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Abandon Vessel Drilled planned for 20-Mar at 11.30 hrs	
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SLHKZ, Peter Kitlowski		

DOR No.	003	**Date**	**Saturday, 19 March 2016**

Diary Of Events

Code	From	To	Period	Description
M/D	00:00	10:00	10:00	Alongside Rotterdam for mobilisation
				- mobilisation of equipment
				- harbour calibrations
TR	10:00	11:16	01:16	Transit to Maeslantkering for absolute depth check
CAL	11:16	11:23	00:07	Toolbox for SVP
CAL	11:23	11:49	00:26	Perform SVP
CAL	11:49	11:56	00:07	Survey MBES calibration line Line_01
CAL	11:56	12:06	00:10	Survey MBES calibration line Line_01_A
CAL	12:06	12:08	00:02	Survey MBES calibration line Line_02
CAL	12:08	12:52	00:44	Processing MBES data
TR	12:52	15:45	02:53	Transit to offshore calibration area
CAL	15:45	16:32	00:47	Preparing for USBL calibration
CAL	16:32	16:45	00:13	Toolbox for SVP and USBL calibration
CAL	16:45	16:55	00:10	Perform SVP
CAL	16:55	16:57	00:02	Deploying USBL calibration setup
CAL	16:57	17:02	00:05	Survey MBES control line
CAL	17:02	17:12	00:10	Survey MBES control line
CAL	17:12	19:52	02:40	Processing MBES data, setting up, running test lines
CAL	19:52	20:45	00:53	Preparing for USBL calibration
CAL	20:45	21:00	00:15	Survey USBL calibration line S1
CAL	21:00	21:16	00:16	Survey USBL calibration line N2
CAL	21:16	21:29	00:13	Survey USBL calibration line W1
CAL	21:29	21:47	00:18	Survey USBL calibration line E2
CAL	21:47	21:59	00:12	Survey USBL calibration line N1
CAL	21:59	22:20	00:21	Survey USBL calibration line S2
CAL	22:20	22:35	00:15	Survey USBL calibration line W2
CAL	22:35	22:50	00:15	Survey USBL calibration line E1
CAL	22:50	23:00	00:10	Testing second USBL beacon
CAL	23:00	24:00	01:00	Processing USBL calibration

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	003	**Date**	**Saturday, 19 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	10.00	10.00	48.00	58.00
CAL	Calibrations	09.51	9.85	0.00	9.85
TR	Transit to/from work site	04.09	4.15	0.00	4.15
OPS.GEO	Operational Geophysical	00.00	0.00	0.00	0.00
OPS.MCS	Operational Multichannel Seismic	00.00	0.00	0.00	0.00
DT	Equipment Downtime	00.00	0.00	0.00	0.00
VDT	Vessel Downtime	00.00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00.00	0.00	0.00	0.00
S/O	Standby Other	00.00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00.00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00.00	0.00	0.00	0.00
EM	Equipment Maintenance	00.00	0.00	0.00	0.00
PTC	Port Call	00.00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00.00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00.00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00.00	0.00	0.00	0.00
WOC	Waiting on Client	00.00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00.00	0.00	0.00	0.00
AD.B	Additional	00.00	0.00	0.00	0.00
AD.C	Additional	00.00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**48.00**	**72.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	12:00	Offshore calibrations
12:00	24.00	Survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne; RVO.SI.HKZ; Peter Kitlowski		

DOR No.	003	**Date**	**Saturday, 19 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	1344
Transit etc km today	69	**Transit etc km to date**	69	**Percentage to date**	0.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
		19-Mar	69								

Weather Last 24hours						
Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1029	NNE	2			In Port
06:00	1029	VAR	2			In Port
12:00	1030	NNW	3			In Port
18:00	1030	N	6	2.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125 SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team, J. Chisholm		
	Client: Ben de Sonneville, Frank van Erp, Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	003	**Date**	**Saturday, 19 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	1	Yes
Toolbox Talks	3	3	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		0	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 2x SVP	5
Toolbox Talk: USBL calibration setup deployment	5

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	38.6	0.9	0.0	37.8
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	31.0	3.0	0.0	28.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**004**	**Date**	**Sunday, 20 March 2016**

Diary Of Events

Code	From	To	Period	Description
CAL	00:00	00:45	00:45	Processing USBL calibration
CAL	00:45	01:08	00:23	Preparing SSS and MAG for deployment and toolbox
CAL	01:08	01:25	00:17	Survey MBES patch test line MBE2
CAL	01:25	02:21	00:56	Deployed SSS and MAG
CAL	02:21	02:55	00:34	Survey MBES patch test line MBE1
CAL	02:55	03:11	00:16	Survey MBES patch test line MBE5
CAL	03:11	03:29	00:18	Survey MBES patch test line MBE6
CAL	03:29	03:47	00:18	Survey MBES patch test line MBE8
CAL	03:47	04:06	00:19	Survey MBES patch test line MBE3
CAL	04:06	04:33	00:27	Survey MBES patch test line MBE7
CAL	04:33	04:39	00:06	Survey MBES patch test line MBE4
CAL	04:39	05:00	00:21	Recovered SSS and MAG
CAL	05:00	05:11	00:11	Toolbox for SVP
CAL	05:11	05:23	00:12	Perform SVP
CAL	05:23	07:10	01:47	Processing MBES patch test data
CAL	07:10	08:10	01:00	Investigating SSS verification location
CAL	08:10	08:30	00:20	Toolbox for SBP, SSS and MAG deployment
CAL	08:30	09:00	00:30	Deployed SBP, SSS and MAG
CAL	09:00	09:14	00:14	Data transfer issue with SSS
CAL	09:14	09:22	00:08	Recovered SBP, SSS and MAG
CAL	09:22	10:25	01:03	Faultfinding data transfer issue with SSS, replaced SSS deck cable
CAL	10:25	11:34	01:09	Deployed SBP, SSS and MAG
CAL	11:34	12:04	00:30	Survey SSS verification line SSS_Ver_01
CAL	12:04	12:20	00:16	Survey SSS verification line SSS_Ver_02
CAL	12:20	12:59	00:39	Survey SSS verification line SSS_Ver_03
CAL	12:59	13:06	00:07	Survey SSS verification line SSS_Ver_02
CAL	13:06	13:11	00:05	Toolbox for SBP, SSS and MAG recovery
CAL	13:11	13:30	00:19	Recovered SBP, SSS and MAG
CAL	13:30	15:40	02:10	Equipment settings checking and updating
CAL	15:40	15:48	00:08	Toolbox for SBP, SSS and MAG deployment
CAL	15:48	16:03	00:15	Deployed SBP, SSS and MAG
CAL	16:03	16:13	00:10	Survey test line for SBP and SSS settings check
CAL	16:13	16:45	00:32	Recovered SBP, SSS and MAG
CAL	16:45	17:45	01:00	Heading to USBL calibration location
CAL	17:45	20:17	02:32	Attempting to recover the USBL beacon with acoustic release
CAL	20:17	20:18	00:01	Toolbox for SVP and deployment of SBP, SSS and MAG
CAL	20:18	20:22	00:04	Perform SVP
CAL	20:22	20:46	00:24	Deployed SBP, SSS and MAG
CAL	20:46	22:21	01:35	Preparing for MBES comparison line with MV Fugro Pioneer
CAL	22:21	23:06	00:45	Survey comparison line FPMain55
CAL	23:06	23:26	00:20	Preparing for MBES comparison line with MV Fugro Pioneer
CAL	23:26	23:50	00:24	Survey comparison line FPMain55
CAL	23:50	24:00	00:10	Heading to MV Victor Hensen survey line

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**004**	**Date**	**Sunday, 20 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	24:00	24.00	9.85	33.85
TR	Transit to/from work site	00:00	0.00	4.15	4.15
OPS.GEO	Operational Geophysical	00:00	0.00	0.00	0.00
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	0.00	0.00
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**72.00**	**96.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Survey operations

	Variations to Contract
Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**004**	**Date**	**Sunday, 20 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	1344
Transit etc km today	136	**Transit etc km to date**	205	**Percentage to date**	0.00%

Survey Lines		Transit etc.		Survey Lines		Transit etc.		Survey Lines		Transit etc.	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
		19-Mar	69								
		20-Mar	136								

Weather Last 24hours

Time	Pressure	Wind Direction	Wind Force	Wave Height	Direction	Remarks
00:00	1029	N	5	2.0		
06:00	1027	N	5	2.0		
12:00	1027	N	5	1.8		
18:00	1027	NNW	5	2.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**004**	**Date**	**Sunday, 20 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	2	Yes
Toolbox Talks	9	12	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		0	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 2x SVP	4
Toolbox Talk: 1x USBL calibration setup recovery	5
Toolbox Talk: 3x SSS, MAG deployment / recovery	5
Toolbox Talk: 3x SBP deployment / recovery	5

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	37.8	1.4	0.0	36.4
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	28.0	3.0	0.0	25.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
	Victor Hensen has been working since Sunday late evening, but unfortunately despite best efforts on board and due in part to marginal sea conditions (for this vessel) the results are below expectations. The SSS continues to freeze for 1-2 minutes ≈4 times per line. In addition due to the marginal sea conditions and with only ≈15 or ≈45m cable out there is considerable 'snatch' on some of the records particularly high frequency records so effectively no data in these areas. Low frequency is affected by surface noise with the result that the effective range is 40-50m per channel. High frequency is considerably attenuated and we have an effective range of 50-60m per channel. The SBP not surprisingly has considerable interference from seabed multiples and other effects due in part to the sandy seabed. The required penetration of 15m as quoted in the PEP is not achievable with this equipment in this type of sandy seabed. The magnetometer is only 20m behind the SSS tow fish, which is as close as 15m to the vessel depending on line heading. This is probably too close and FSBV should look into any practical way of extending this distance. It would be useful to have some feedback from the Fugro Pioneer so that acquisition is as standard as possible between the two vessels. Line keeping is good and from what I have seen of the MBES that also seems to be good. I hope to receive the calibration and verification report Monday afternoon. Although the Victor Hensen is a capable survey vessel in many ways, it is quite clearly more limited by sea conditions than the Fugro Pioneer.
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**005**	**Date**	**Monday, 21 March 2016**

Diary Of Events

Code	From	To	Period	Description
CAL	00:00	00:08	00:08	Heading to MV Victor Hensen survey line
OPS.GEO	00:08	00:31	00:23	SOL: **VHMainNorth18** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	00:31	00:46	00:15	Line turn
OPS.GEO	00:46	01:10	00:24	SOL: **VHMainNorth17** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	01:10	01:23	00:13	Line turn
OPS.GEO	01:23	01:51	00:28	SOL: **VHMainNorth16** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	01:51	02:23	00:32	Line turn
OPS.GEO	02:23	02:51	00:28	SOL: **VHMainNorth15** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	02:51	03:14	00:23	Line turn
OPS.GEO	03:14	03:46	00:32	SOL: **VHMainNorth14** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	03:46	04:13	00:27	Line turn
OPS.GEO	04:13	04:46	00:33	SOL: **VHMainNorth13** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	04:46	05:09	00:23	Line turn
OPS.GEO	05:09	05:45	00:36	SOL: **VHMainNorth12** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	05:45	06:09	00:24	Line turn
OPS.GEO	06:09	06:48	00:39	SOL: **VHMainNorth11** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	06:48	07:09	00:21	Line turn
OPS.GEO	07:09	07:47	00:38	SOL: **VHMainNorth10** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	07:47	08:11	00:24	Line turn
OPS.GEO	08:11	08:42	00:31	SOL: **VHMainNorth09** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SSS, Mag data intermitted, requires re-run
OPS.GEO	08:42	09:10	00:28	Toolbox for SVP, recovery of SSS, SBP and MAG
OPS.GEO	09:10	09:38	00:28	Recovered SBP, SSS and MAG
OPS.GEO	09:38	09:52	00:14	Perform SVP
TR	09:52	12:00	02:08	Transit to port of Scheveningen
DT	12:00	24:00	12:00	In Port: Retermination of SSS tow connection, receiving additional tools

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**005**	**Date**	**Monday, 21 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:08	0.13	33.85	33.98
TR	Transit to/from work site	02:08	2.13	4.15	6.28
OPS.GEO	Operational Geophysical	09:44	9.73	0.00	9.73
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	12:00	12.00	0.00	12.00
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**96.00**	**120.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	09:00	Retermination of SSS tow connection
09:00	11:00	Transit to survey area
11:00	13:00	Testing sea anchor on SSS cable
13:00	24:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**005**	**Date**	**Monday, 21 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	1344
Transit etc km today	60	**Transit etc km to date**	265	**Percentage to date**	0.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
		20-Mar	136								
		21-Mar	60								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1026	NNW	5	2.0		
06:00	1026	NNW	5	1.8		
12:00	1025	WNW	4			In Port
18:00	1024	WNW	4			In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**005**	**Date**	**Monday, 21 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	3	Yes
Toolbox Talks	3	15	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 1x SVP	5
Toolbox Talk: 1x SSS, MAG deployment / recovery	5
Toolbox Talk: 1x SBP deployment / recovery	5

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	36.4	0.8	0.0	35.6
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	25.0	2.0	0.0	23.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**006**	**Date**	**Tuesday, 22 March 2016**

Diary Of Events

Code	From	To	Period	Description
DT	00:00	09:00	09:00	In Port: Retermination of SSS tow connection
TR	09:00	10:00	01:00	Transit to survey area
OPS.GEO	10:00	10:30	00:30	Toolbox for deployment of SSS, MAG and preparing for deployment
OPS.GEO	10:30	11:01	00:31	Deployed SSS, MAG with sea anchor
OPS.GEO	11:01	11:06	00:05	Performing test with sea anchor on SSS tow cable
OPS.GEO	11:06	11:33	00:27	Recovered SSS, MAG with sea anchor
OPS.GEO	11:33	11:59	00:26	Toolbox for SVP, deployment of SSS, SBP and MAG
OPS.GEO	11:59	12:02	00:03	Perform SVP
OPS.GEO	12:02	12:15	00:13	Deployed SBP
OPS.GEO	12:15	12:17	00:02	Deployed SSS, MAG
DT	12:17	16:13	03:56	Changing setup and testing to solve SSS lost data connection issue
OPS.GEO	16:13	16:31	00:18	SOL: **VHMain01** - Hdg: 026° - (MBES, SSS, Mag, SBP) - USBL beacon low power, requires re-run
OPS.GEO	16:31	16:50	00:19	Toolbox for recovery and deployment of SSS, MAG
OPS.GEO	16:50	17:15	00:25	Replacing USBL beacon
OPS.GEO	17:15	17:52	00:37	Deployed SSS, MAG
OPS.GEO	17:52	18:24	00:32	Heading to the line
OPS.GEO	18:24	18:43	00:19	SOL: **VHMain01A** - Hdg: 206° - (MBES, SSS, Mag, SBP) - Mag data not correct, requires re-run
OPS.GEO	18:43	19:46	01:03	Line turn
OPS.GEO	19:46	20:24	00:38	SOL: **VHMain02** - Hdg: 026° - (MBES, SSS, Mag, SBP) - Mag data not correct, requires re-run
OPS.GEO	20:24	20:30	00:06	Toolbox for recovery of SSS, MAG
OPS.GEO	20:30	20:35	00:05	Recovered SSS, MAG
OPS.GEO	20:35	21:00	00:25	Swapping MAG for spare, deployed MAG
DT	21:00	24:00	03:00	Faultfinding incorrect data values of MAG

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**006**	**Date**	**Tuesday, 22 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	01:00	1.00	6.28	7.28
OPS.GEO	Operational Geophysical	07:04	7.07	9.73	16.80
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	15:56	15.93	12.00	27.93
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**120.00**	**144.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	01:00	Faultfinding MAG
01:00	24:00	Survey operations

Variations to Contract

Date **Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**006**	**Date**	**Tuesday, 22 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	0	**Total Project km**	1344
Transit etc km today	95	**Transit etc km to date**	360	**Percentage to date**	0.00%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
		21-Mar	60								
		22-Mar	95								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1024	WNW	4			In Port
06:00	1021	WNW	4			In Port
12:00	1021	NW	3 - 4	1.2		
18:00	1020	WNW	4	1.2		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**006**	**Date**	**Tuesday, 22 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	4	Yes
Toolbox Talks	5	20	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 1x SVP	5
Toolbox Talk: 3x SSS, MAG deployment / recovery	5
Toolbox Talk: 1x SBP deployment / recovery	5

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	35.6	0.9	0.0	34.7
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	23.0	2.0	0.0	21.0

PARTY CHIEF COMMENTS

The VSAT phones on the Victor Hensen is not operational for the next few days. In case of emergency the vessel's INMARSAT can be reached: +870 764021782

Party Chief Signature

Lennart de Haan - Party Chief onboard MV Victor Hensen

CLIENT REPRESENTATIVE COMMENTS

The SSS problems were eventually traced to the proximity of SSS and SBP cables on deck. This problem has now been rectified. Unfortunately while the first line was being checked it was noticed that the magnetometer values were not correct and this was still being looked into by the end of the day.
New hand held radios have made a considerable improvement to operations and safety.
We are still looking into options for CCTV on the deck for Bridge Keepers.

Client Representative Signature

Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**007**	**Date**	**Wednesday, 23 March 2016**

Diary Of Events

Code	From	To	Period	Description
DT	00:00	00:40	00:40	Faultfinding incorrect data values of MAG
OPS.GEO	00:40	00:49	00:09	Toolbox for recovery of SBP, SVP and deployment of SSS, SBP, MAG
OPS.GEO	00:49	00:58	00:09	Recovered SBP
OPS.GEO	00:58	01:10	00:12	Perform SVP
OPS.GEO	01:10	01:57	00:47	Deployed SSS, SBP and MAG
OPS.GEO	01:57	02:34	00:37	Heading to the line
OPS.GEO	02:34	02:50	00:16	SOL: **VHMain01B** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	02:50	03:56	01:06	Line turn
OPS.GEO	03:56	05:32	01:36	SOL: **VHMain02A** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	05:32	06:12	00:40	Line turn
OPS.GEO	06:12	06:50	00:38	SOL: **VHMain03** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SBP frozen, turn around
OPS.GEO	06:50	07:20	00:30	Turn around to join line VHMain03
OPS.GEO	07:20	09:03	01:43	SOL: **VHMain03A** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	09:03	09:36	00:33	Line turn
OPS.GEO	09:36	11:55	02:19	SOL: **VHMain04** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	11:55	12:15	00:20	Toolbox for SVP
OPS.GEO	12:15	12:56	00:41	Perform SVP
OPS.GEO	12:56	13:24	00:28	SOL: **VHMain05** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SBP frozen, turn around
OPS.GEO	13:24	13:44	00:20	Turn around to join line VHMain05
OPS.GEO	13:44	15:55	02:11	SOL: **VHMain05A** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	15:55	16:19	00:24	Line turn
OPS.GEO	16:19	16:42	00:23	SOL: **VHMain06** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SBP frozen, turn around
OPS.GEO	16:42	17:19	00:37	Swap network switch of SBP. Turn around to join line VHMain06
OPS.GEO	17:19	19:56	02:37	SOL: **VHMain06A** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	19:56	20:21	00:25	Line turn
OPS.GEO	20:21	23:21	03:00	SOL: **VHMain07** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	23:21	23:46	00:25	Line turn
OPS.GEO	23:46	24:00	00:14	SOL: **VHMain08** - Hdg: 206° - (MBES, SSS, Mag, SBP)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**007**	**Date**	**Wednesday, 23 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	23:20	23.33	16.80	40.13
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:40	0.67	27.93	28.60
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	0.00	0.00
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**144.00**	**168.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**007**	**Date**	**Wednesday, 23 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	114	**Survey Lines km to date**	114	**Total Project km**	1344
Transit etc km today	67	**Transit etc km to date**	427	**Percentage to date**	8.51%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
		22-Mar	95								
		23-Mar	67								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1020	WNW	3	1.0		
06:00	1020	NNW	4	1.2		
12:00	1019	NW	4	1.2		
18:00	1019	NNW	4	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**007**	**Date**	**Wednesday, 23 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	5	Yes
Toolbox Talks	3	23	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 2x SVP	5
Toolbox Talk: 1x SSS, MAG deployment / recovery	5

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	34.7	1.5	0.0	33.2
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	21.0	2.0	0.0	19.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**008**	**Date**	**Thursday, 24 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	01:11	01:11	Continue: **VHMain08** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SSS crash, turn around
OPS.GEO	01:11	01:40	00:29	Turn around to join line VHMain08
OPS.GEO	01:40	03:28	01:48	SOL: **VHMain08A** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	03:28	03:48	00:20	Line turn
OPS.GEO	03:48	06:06	02:18	SOL: **VHMain09** - Hdg: 026° - (MBES, SSS, Mag, SBP) - Starboard MBES stopped working
DT	06:06	06:45	00:39	Faultfinding MBES problem
OPS.GEO	06:45	07:22	00:37	SOL: **VHMain09A** - Hdg: 026° - (SSS, Mag, SBP)
OPS.GEO	07:22	07:32	00:10	Toolbox talk for SVP
OPS.GEO	07:32	08:33	01:01	Perform SVP - unsuccesfull due to not working SD204
OPS.GEO	08:33	11:29	02:56	SOL: **VHMain10** - Hdg: 206° - (SSS, Mag, SBP)
OPS.GEO	11:29	11:55	00:26	Line turn
OPS.GEO	11:55	14:49	02:54	SOL: **VHMain11** - Hdg: 026° - (SSS, Mag, SBP)
OPS.GEO	14:49	15:28	00:39	Line turn
OPS.GEO	15:28	18:27	02:59	SOL: **VHMain12** - Hdg: 206° - (SSS, Mag, SBP)
OPS.GEO	18:27	18:43	00:16	Line turn
OPS.GEO	18:43	19:28	00:45	SOL: **VHMain13** - Hdg: 026° - (SSS, Mag, SBP)
OPS.GEO	19:28	21:53	02:25	Continue: **VHMain13** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	21:53	22:20	00:27	Line turn
OPS.GEO	22:20	23:58	01:38	SOL: **VHMain14** - Hdg: 206° - (MBES, SSS, Mag, SBP)
SW.AL	23:58	24:00	00:02	Weather downtime - Toolbox talk to recovery SSS, SBP, MAG due to poor sea conditions

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**008**	**Date**	**Thursday, 24 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	23:19	23.32	40.13	63.45
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:39	0.65	28.60	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:02	0.03	0.00	0.03
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**168.00**	**192.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	12:00	Weather downtime
12:00	24:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**008**	**Date**	**Thursday, 24 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	23	**Survey Lines km to date**	137	**Total Project km**	1344
Transit etc km today	40	**Transit etc km to date**	467	**Percentage to date**	10.20%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
		23-Mar	67								
		24-Mar	40								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1020	W	3	0.8		
06:00	1019	W	3	0.7		
12:00	1018	WSW	4	1.0		
18:00	1018	SW	5	1.6		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**008**	**Date**	**Thursday, 24 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	6	Yes
Toolbox Talks	3	26	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 1x SVP	5
Toolbox Talk: 1x SSS, MAG deployment / recovery	6
Toolbox Talk: 1x SBP deployment / recovery	6

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	33.2	1.4	0.0	31.8
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	19.0	2.0	0.0	17.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
	Vessel commenced weather standby by the end of the day. However, review of SSS data for Lines 12 and 13 confirms excessive noise over 75% of the LF records and considerable snatch on the HF records so they will need to be re run. We are quite limited by the shallow water depths and the very short cable out. The starboard MBES suddenly failed this morning. Fortunately this was a top side unit failure rather than the hull mounted head. Reson provided support, but in the end after removing and replacing some of the cards the starboard channel started working again, but for no apparent reason. The velocity probe also failed this morning due to low power. I understand the batteries cannot be changed offshore and for some reason we do not have a spare on board. Despite these setbacks progress through the survey programme has been made. Survey crew have been putting in a lot of effort to repair systems since mobilisation. Line keeping and vessel turning onto line is to a consistently high standard despite strong currents at times.
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**009**	**Date**	**Friday, 25 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	00:11	00:11	Weather downtime - Toolbox talk to recovery SSS, SBP, MAG due to poor sea conditions
SW.AL	00:11	00:24	00:13	Weather downtime - Recovered SSS, SBP, MAG
SW.AL	00:24	01:21	00:57	Weather downtime - Heading to MBES infill line
SW.AL	01:21	01:27	00:06	Weather downtime - SOL: **VHMain13A** - Hdg: 206° - (MBES) - Weather too rough, abort line
SW.AL	01:27	10:02	08:35	Weather downtime
OPS.GEO	10:02	13:00	02:58	SOL: **VHMain10A** - Hdg: 026° - (MBES)
OPS.GEO	13:00	13:12	00:12	Line turn
OPS.GEO	13:12	16:05	02:53	SOL: **VHMain11A** - Hdg: 206° - (MBES)
OPS.GEO	16:05	16:24	00:19	Line turn
OPS.GEO	16:24	18:57	02:33	SOL: **VHMain09B** - Hdg: 026° - (MBES)
OPS.GEO	18:57	19:14	00:17	Toolbox talk for deployment of SSS, SBP, MAG
OPS.GEO	19:14	19:36	00:22	Deployed SSS, SBP, MAG
OPS.GEO	19:36	22:41	03:05	SOL: **VHMain12A** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	22:41	23:09	00:28	Line turn
OPS.GEO	23:09	24:00	00:51	SOL: **VHMain13B** - Hdg: 026° - (MBES, SSS, Mag, SBP)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**009**	**Date**	**Friday, 25 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	13:58	13.97	63.45	77.42
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	10:02	10.03	0.03	10.07
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**192.00**	**216.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	10:00	Survey operations
10:00	24:00	Weather downtime - shelter in Scheveningen

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**009**	**Date**	**Friday, 25 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	102	**Survey Lines km to date**	239	**Total Project km**	1344
Transit etc km today	39	**Transit etc km to date**	506	**Percentage to date**	17.76%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
		24-Mar	40								
		25-Mar	39								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1015	SW	6	2.2		
06:00	1013	SW	6	2.5		
12:00	1015	NNW	5	2.0		
18:00	1018	WSW	3	1.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**009**	**Date**	**Friday, 25 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	7	Yes
Toolbox Talks	4	30	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		0	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 2x SSS, MAG deployment / recovery	6
Toolbox Talk: 2x SBP deployment / recovery	6

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	31.8	1.4	0.0	30.4
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	17.0	2.0	1.0	16.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**010**	**Date**	**Saturday, 26 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	02:09	02:09	Continue: **VHMain13B** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	02:09	02:29	00:20	Line turn
OPS.GEO	02:29	05:28	02:59	SOL: **VHMain14A** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	05:28	05:48	00:20	Line turn
OPS.GEO	05:48	08:48	03:00	SOL: **VHMain15** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SSS data is poor, requires re-run
OPS.GEO	08:48	09:27	00:39	Assessing data quality in opposite direction
SW.AL	09:27	09:35	00:08	Weather downtime - Toolbox talk to recover SSS, SBP, MAG due to poor weather conditions
SW.AL	09:35	10:00	00:25	Weather downtime - Recovery of SSS, SBP, MAG
SW.AL	10:00	14:42	04:42	Weather downtime - Transit to port of Scheveningen
SW.AL	14:42	24:00	09:18	Weather downtime - Alongside in Scheveningen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**010**	**Date**	**Saturday, 26 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	09:27	9.45	77.42	86.87
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	14:33	14.55	10.07	24.62
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**216.00**	**240.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Weather downtime - alongside in Scheveningen

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**010**	**Date**	**Saturday, 26 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	40	**Survey Lines km to date**	279	**Total Project km**	1344
Transit etc km today	52	**Transit etc km to date**	558	**Percentage to date**	20.75%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
		25-Mar	39								
		26-Mar	52								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1020	SSE	3	1.2		
06:00	1020	S	4	1.4		
12:00	1017	S	6			In Port
18:00	1012	SSW	4			In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**010**	**Date**	**Saturday, 26 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	8	Yes
Toolbox Talks	2	32	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	2	2	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 1x SSS, MAG deployment / recovery	5
Toolbox Talk: 1x SBP deployment / recovery	5
HOC 01: Clear communication between online room/back deck and bridge with new handheld radios	
HOC 02: Save and quick deployments and recoveries	

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	30.4	0.9	0.0	29.5
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	16.0	2.0	20.0	34.0

PARTY CHIEF COMMENTS

Party Chief Signature

Lennart de Haan - Party Chief onboard MV Victor Hensen

CLIENT REPRESENTATIVE COMMENTS

We compared our SSS data from the test line with the Fugro Pioneer. The only difference was the HF as we suffer from considerably more snatch. This means that we are far more weather dependent as has been mentioned previously. Our last line yesterday, Line 15 will need to be re run due to high levels of noise generally and snatch on the HF. The MBES data including the backscatter continues to be very good. SBP data is as good as it can be given the nature of the seabed. We probably arrived alongside at the right time yesterday as strong winds >30 knots made for difficult conditions as the Victor Henson came alongside. There is no workable weather forecast until towards the middle of next week.

Client Representative Signature

Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**011**	**Date**	**Sunday, 27 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	24:00	24:00	Weather downtime - Alongside in Scheveningen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**011**	**Date**	**Sunday, 27 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	00:00	0.00	86.87	86.87
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	24:00	24.00	24.62	48.62
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**240.00**	**264.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Weather downtime - alongside in Scheveningen

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**011**	**Date**	**Sunday, 27 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	279	**Total Project km**	1344
Transit etc km today	0	**Transit etc km to date**	558	**Percentage to date**	20.75%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
		25-Mar	39								
		26-Mar	52								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1012	SSW	5			In Port
06:00	1008	SW	4			In Port
12:00	1008	SW	4			In Port
18:00	1009	SW	6			In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**011**	**Date**	**Sunday, 27 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	9	Yes
Toolbox Talks		32	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		2	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	29.5	0.3	0.0	29.3
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	34.0	2.0	0.0	32.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**012**	**Date**	**Monday, 28 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	24:00	24:00	Weather downtime - Alongside in Scheveningen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**012**	**Date**	**Monday, 28 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	00:00	0.00	86.87	86.87
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	24:00	24.00	48.62	72.62
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**264.00**	**288.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Weather downtime - alongside in Scheveningen

Variations to Contract

Date **Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**012**	**Date**	**Monday, 28 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	279	**Total Project km**	1344
Transit etc km today	0	**Transit etc km to date**	558	**Percentage to date**	20.75%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
		25-Mar	39								
		26-Mar	52								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1009	SW	7			In Port
06:00	995	S	7			In Port
12:00	994	SSW	8			In Port
18:00	997	SW	8			In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**012**	**Date**	**Monday, 28 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	10	Yes
Toolbox Talks		32	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		2	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	29.3	0.3	0.0	29.0
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	32.0	1.0	0.0	31.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**013**	**Date**	**Tuesday, 29 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	24:00	24:00	Weather downtime - Alongside in Scheveningen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**013**	**Date**	**Tuesday, 29 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	00:00	0.00	86.87	86.87
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	24:00	24.00	72.62	96.62
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**288.00**	**312.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	16:00	Weather downtime - alongside in Scheveningen
16:00	17:00	Weather downtime - transit to survey area
17:00	24:00	Survey operations

Variations to Contract

Date **Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**013**	**Date**	**Tuesday, 29 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	279	**Total Project km**	1344
Transit etc km today	0	**Transit etc km to date**	558	**Percentage to date**	20.75%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
		25-Mar	39								
		26-Mar	52								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	997	SW	7			In Port
06:00	1004	SW	5			In Port
12:00	1007	SW	6			In Port
18:00	1010	SW	7			In Port

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, L. Stewart, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, R. Elbore, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**013**	**Date**	**Tuesday, 29 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		10	No	Vessel Coordination Meeting	1	11	Yes
Toolbox Talks		32	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		2	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	29.0	0.3	0.0	28.7
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	31.0	3.0	0.0	28.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**014**	**Date**	**Wednesday, 30 March 2016**

Diary Of Events

Code	From	To	Period	Description
SW.AL	00:00	17:00	17:00	Weather downtime - Alongside in Scheveningen
SW.AL	17:00	18:20	01:20	Weather downtime - Transit to survey area
OPS.GEO	18:20	18:25	00:05	Toolbox talk for SVP
OPS.GEO	18:25	18:30	00:05	Perform SVP
SW.AL	18:30	21:23	02:53	Weather downtime - Standby in survey area
OPS.GEO	21:23	24:00	02:37	Verification MBES patch test lines

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**014**	**Date**	**Wednesday, 30 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	02:47	2.78	86.87	89.65
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	21:13	21.22	96.62	117.83
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**312.00**	**336.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**014**	**Date**	**Wednesday, 30 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	0	**Survey Lines km to date**	279	**Total Project km**	1344
Transit etc km today	45	**Transit etc km to date**	603	**Percentage to date**	20.75%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
		25-Mar	39								
		26-Mar	52								
		30-Mar	45								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1010	SW	5			In Port
06:00	999	WSW	5			In Port
12:00	998	WSW	4			In Port
18:00	1013	WSW	4	1.8		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**014**	**Date**	**Wednesday, 30 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction	1	11	No	Vessel Coordination Meeting	1	12	Yes
Toolbox Talks	1	33	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		2	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 1x SVP	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	28.7	0.8	0.0	27.9
Lubes (Ltr)	500.0	0.0	0.0	500.0
Water (cu.m)	28.0	2.0	0.0	26.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**015**	**Date**	**Thursday, 31 March 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:45	00:45	Verification MBES patch test lines
OPS.GEO	00:45	01:00	00:15	Toolbox talk for SVP, deployment of SSS, SBP, MAG
OPS.GEO	01:00	01:04	00:04	Perform SVP
OPS.GEO	01:04	01:59	00:55	Deployed SSS, SBP and MAG
OPS.GEO	01:59	02:48	00:49	Heading to the line
OPS.GEO	02:48	02:53	00:05	SOL: **VHMain16** - Hdg: 026° - (MBES, SSS, Mag, SBP) - USBL module stopped working, turn around
OPS.GEO	02:53	03:21	00:28	Turn around to join line VHMain16
OPS.GEO	03:21	04:15	00:54	SOL: **VHMain16A** - Hdg: 026° - (MBES, SSS, Mag, SBP) - Online computer crashed, turn around
OPS.GEO	04:15	04:39	00:24	Turn around to join line VHMain16
OPS.GEO	04:39	06:47	02:08	SOL: **VHMain16B** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	06:47	07:10	00:23	Line turn
OPS.GEO	07:10	10:24	03:14	SOL: **VHMain17** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	10:24	10:43	00:19	Line turn
OPS.GEO	10:43	13:48	03:05	SOL: **VHMain15A** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	13:48	14:05	00:17	Toolbox talk for SVP
OPS.GEO	14:05	14:32	00:27	Perform SVP
OPS.GEO	14:32	17:34	03:02	SOL: **VHMain18** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	17:34	17:57	00:23	Toolbox for recovery of SSS, MAG, changing the USBL beacon and deployment of SSS, MAG
OPS.GEO	17:57	18:18	00:21	Recovered SSS, MAG
OPS.GEO	18:18	19:20	01:02	Changed the USBL beacon, deployed SSS, MAG
OPS.GEO	19:20	23:04	03:44	SOL: **VHMain19** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	23:04	23:27	00:23	Line turn
OPS.GEO	23:27	24:00	00:33	SOL: **VHMain20** - Hdg: 206° - (MBES, SSS, Mag, SBP)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**015**	**Date**	**Thursday, 31 March 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	24:00	24.00	89.65	113.65
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	117.83	117.83
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**336.00**	**360.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**015**	**Date**	**Thursday, 31 March 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	130	**Survey Lines km to date**	409	**Total Project km**	1344
Transit etc km today	20	**Transit etc km to date**	623	**Percentage to date**	30.42%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69								
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
31-Mar	130	25-Mar	39								
		26-Mar	52								
		30-Mar	45								
		31-Mar	20								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1015	SW	3	1.0		
06:00	1015	SW	3	1.0		
12:00	1018	SW	1	0.5		
18:00	1018	NNW	3	1.0		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**015**	**Date**	**Thursday, 31 March 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		11	No	Vessel Coordination Meeting	1	13	Yes
Toolbox Talks	5	38	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card	1	3	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 2x SVP	5
Toolbox Talk: 2x SSS, MAG deployment / recovery	5
Toolbox Talk: 1x SBP deployment / recovery	5
HOC 03: Good line keeping and coming onto the line	

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	27.9	1.4	0.0	26.5
Lubes (Ltr)	500.0	30.0	0.0	470.0
Water (cu.m)	26.0	2.0	0.0	24.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**016**	**Date**	**Friday, 1 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	02:37	02:37	Continue: **VHMain20** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	02:37	03:02	00:25	Line turn
OPS.GEO	03:02	06:28	03:26	SOL: **VHMain21** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	06:28	06:48	00:20	Line turn
OPS.GEO	06:48	10:24	03:36	SOL: **VHMain22** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	10:24	10:35	00:11	Toolbox talk for SVP
OPS.GEO	10:35	10:48	00:13	Perform SVP
OPS.GEO	10:48	11:34	00:46	Line turn
OPS.GEO	11:34	15:04	03:30	SOL: **VHMain23** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	15:04	15:17	00:13	Toolbox talk for SVP
OPS.GEO	15:17	15:39	00:22	Perform SVP
OPS.GEO	15:39	15:46	00:07	SOL: **VHMain24** - Hdg: 206° - (MBES, SSS, Mag, SBP) - Starfix Fixing stopped, turn around
OPS.GEO	15:46	16:18	00:32	Turn around to start line VHMain24
OPS.GEO	16:18	19:52	03:34	SOL: **VHMain24A** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	19:52	20:15	00:23	Line turn
OPS.GEO	20:15	23:46	03:31	SOL: **VHMain25** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	23:46	24:00	00:14	Line turn

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**016**	**Date**	**Friday, 1 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	24:00	24.00	113.65	137.65
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	117.83	117.83
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**360.00**	**384.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**016**	**Date**	**Friday, 1 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	162	**Survey Lines km to date**	571	**Total Project km**	1344
Transit etc km today	20	**Transit etc km to date**	643	**Percentage to date**	42.45%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69			01-Apr	20				
22-Mar	15	20-Mar	136								
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
31-Mar	130	25-Mar	39								
01-Apr	162	26-Mar	52								
		30-Mar	45								
		31-Mar	20								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1020	NW	5	1.6		
06:00	1022	NE	4	1.5		
12:00	1026	E	3	0.6		
18:00	1025	W	2	0.3		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**016**	**Date**	**Friday, 1 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		11	No	Vessel Coordination Meeting	1	14	Yes
Toolbox Talks	2	40	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		3	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 2x SVP	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	26.5	1.4	0.0	25.1
Lubes (Ltr)	470.0	0.0	0.0	470.0
Water (cu.m)	24.0	2.0	0.0	22.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**017**	**Date**	**Saturday, 2 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:17	00:17	Line turn
OPS.GEO	00:17	02:46	02:29	SOL: **VHMain26** - Hdg: 206° - (MBES, SSS, Mag, SBP) - SSS computer froze, turn around
OPS.GEO	02:46	03:15	00:29	Turn around to line VHMain26
OPS.GEO	03:15	04:23	01:08	SOL: **VHMain26A** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	04:23	04:44	00:21	Line turn
OPS.GEO	04:44	08:24	03:40	SOL: **VHMain27** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	08:24	08:38	00:14	Toolbox talk for SVP
OPS.GEO	08:38	08:49	00:11	Perform SVP
OPS.GEO	08:49	09:21	00:32	Line turn
OPS.GEO	09:21	12:58	03:37	SOL: **VHMain28** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	12:58	13:17	00:19	Line turn
OPS.GEO	13:17	13:32	00:15	SOL: **VHMain29** - Hdg: 026° - (MBES, SSS, Mag, SBP) - SSS computer froze, turn around
OPS.GEO	13:32	13:58	00:26	Turn around to line VHMain29
OPS.GEO	13:58	16:29	02:31	SOL: **VHMain29A** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	16:29	16:55	00:26	Line turn
OPS.GEO	16:55	17:09	00:14	SOL: **VHMain27A** - Hdg: 206° - (MBES, SSS, Mag, SBP) - Infill
OPS.GEO	17:09	17:21	00:12	Toolbox talk for SVP
OPS.GEO	17:21	17:32	00:11	Perform SVP
OPS.GEO	17:32	18:12	00:40	Line turn
OPS.GEO	18:12	21:00	02:48	SOL: **VHMain30** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	21:00	21:23	00:23	Line turn
OPS.GEO	21:23	22:47	01:24	SOL: **VHMain31** - Hdg: 026° - (MBES, SSS, Mag, SBP) - break off line for SVP
OPS.GEO	22:47	22:52	00:05	Toolbox talk for SVP
OPS.GEO	22:52	23:01	00:09	Perform SVP
OPS.GEO	23:01	23:32	00:31	Heading to line VHMain31
OPS.GEO	23:32	24:00	00:28	SOL: **VHMain31A** - Hdg: 026° - (MBES, SSS, Mag, SBP)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**017**	**Date**	**Saturday, 2 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	24:00	24.00	137.65	161.65
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	117.83	117.83
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**384.00**	**408.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	24:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**017**	**Date**	**Saturday, 2 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	147	**Survey Lines km to date**	717	**Total Project km**	1344
Transit etc km today	22	**Transit etc km to date**	665	**Percentage to date**	53.36%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69			01-Apr	20				
22-Mar	15	20-Mar	136			02-Apr	22				
23-Mar	114	21-Mar	60								
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
31-Mar	130	25-Mar	39								
01-Apr	162	26-Mar	52								
02-Apr	147	30-Mar	45								
		31-Mar	20								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1023	E	2	0.3		
06:00	1022	SSE	2	0.5		
12:00	1022	SSW	2	0.5		
18:00	1020	NW	3	0.5		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski		18
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**017**	**Date**	**Saturday, 2 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		11	No	Vessel Coordination Meeting	1	15	Yes
Toolbox Talks	3	43	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		3	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 3x SVP	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	25.1	1.3	0.0	23.8
Lubes (Ltr)	470.0	0.0	0.0	470.0
Water (cu.m)	22.0	1.0	0.0	21.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**018**	**Date**	**Sunday, 3 April 2016**

Diary Of Events

Code	From	To	Period	Description
OPS.GEO	00:00	00:50	00:50	Continue: **VHMain31A** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	00:50	01:14	00:24	Line turn
OPS.GEO	01:14	04:00	02:46	SOL: **VHMain32** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	04:00	04:51	00:51	Line turn and online computer restarted
OPS.GEO	04:51	07:52	03:01	SOL: **VHMain33** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	07:52	07:59	00:07	Line turn
OPS.GEO	07:59	10:38	02:39	SOL: **VHMain39** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	10:38	10:45	00:07	Toolbox talk for SVP
OPS.GEO	10:45	11:00	00:15	Perform SVP
OPS.GEO	11:00	11:25	00:25	Line turn
OPS.GEO	11:25	14:05	02:40	SOL: **VHMain38** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	14:05	14:26	00:21	Line turn
OPS.GEO	14:26	17:07	02:41	SOL: **VHMain37** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	17:07	17:29	00:22	Line turn
OPS.GEO	17:29	20:19	02:50	SOL: **VHMain36** - Hdg: 026° - (MBES, SSS, Mag, SBP)
OPS.GEO	20:19	20:37	00:18	Line turn
OPS.GEO	20:37	23:25	02:48	SOL: **VHMain35** - Hdg: 206° - (MBES, SSS, Mag, SBP)
OPS.GEO	23:25	23:45	00:20	Line turn
OPS.GEO	23:45	24:00	00:15	SOL: **VHMain34** - Hdg: 026° - (MBES, SSS, Mag, SBP)

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**018**	**Date**	**Sunday, 3 April 2016**

Overview Of Accumulative Hours

Code	Activity	Today	Today dec hours	Previous dec hours	Accum dec
M/D	Mobilisation / Demob	00:00	0.00	58.00	58.00
CAL	Calibrations	00:00	0.00	33.98	33.98
TR	Transit to/from work site	00:00	0.00	7.28	7.28
OPS.GEO	Operational Geophysical	24:00	24.00	161.65	185.65
OPS.MCS	Operational Multichannel Seismic	00:00	0.00	0.00	0.00
DT	Equipment Downtime	00:00	0.00	29.25	29.25
VDT	Vessel Downtime	00:00	0.00	0.00	0.00
DE	Deploying or Retrieval Equipment	00:00	0.00	0.00	0.00
S/O	Standby Other	00:00	0.00	0.00	0.00
SW.BL	Weather standby (<1.5m/15m/s)	00:00	0.00	0.00	0.00
SW.AL	Weather standby (>1.5m/15m/s/minimum 2hrs)	00:00	0.00	117.83	117.83
EM	Equipment Maintenance	00:00	0.00	0.00	0.00
PTC	Port Call	00:00	0.00	0.00	0.00
ADD					
AD.TR	Additional transit	00:00	0.00	0.00	0.00
AD.GEO	Additional Geophysical	00:00	0.00	0.00	0.00
AD.MCS	Additional Multichannel Seismic	00:00	0.00	0.00	0.00
WOC	Waiting on Client	00:00	0.00	0.00	0.00
WOT	Waiting on Tide, Current, Traffic	00:00	0.00	0.00	0.00
AD.B	Additional ….	00:00	0.00	0.00	0.00
AD.C	Additional ….	00:00	0.00	0.00	0.00
	Totals	**24:00**	**24.00**	**408.00**	**432.00**

		Activities Planned For Next 24 Hours
FROM	**TO**	**Details**
00:00	11:00	Survey operations

Variations to Contract

Date	**Details**

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: **Survey:**	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
Marine:	A. Kovaliov, V. Volkov, K. Savchin, A. Kozlov, V. Gorskov, R. Pabillo, N. De Jesus, T. Maaghop (8)		
Client:	P. Kitlowski 18		
Equipment	Starpack, Edgetech 4200 Digital SSS System, Starfix.Seis, Reson Seabat 7125_SV2 Echo Sounder, GeoAcoustics Geochirp Profiler SBP, PosMV heading and motion sensor, ProTrack heading, SD204 CTD Probe, Geometrics G882 Magnetometer, Tracklink USBL		
E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.Sl.HKZ, Peter Kitlowski		

DOR No.	**018**	**Date**	**Sunday, 3 April 2016**

		Work Scope Completed To Date
FROM	**TO**	**Details**
15-March-2016	19-March-2016	Mobilisation in Rotterdam
15-March-2016	20-March-2016	Harbour and Offshore Calibrations

Work Scope Completed To Date					
Survey Lines km today	164	**Survey Lines km to date**	882	**Total Project km**	1344
Transit etc km today	24	**Transit etc km to date**	689	**Percentage to date**	65.57%

Survey Lines		**Transit etc.**		**Survey Lines**		**Transit etc.**		**Survey Lines**		**Transit etc.**	
Date	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**	**Date**	**Km**
21-Mar	41	19-Mar	69			01-Apr	20				
22-Mar	15	20-Mar	136			02-Apr	22				
23-Mar	114	21-Mar	60			03-Apr	24				
24-Mar	23	22-Mar	95								
25-Mar	102	23-Mar	67								
26-Mar	40	24-Mar	40								
31-Mar	130	25-Mar	39								
01-Apr	162	26-Mar	52								
02-Apr	147	30-Mar	45								
03-Apr	164	31-Mar	20								

Weather Last 24hours

Time	**Pressure**	**Wind Direction**	**Wind Force**	**Wave Height**	**Direction**	**Remarks**
00:00	1016	ESE	5	1.0		
06:00	1013	SSE	5	1.0		
12:00	1013	VAR	1	0.3		
18:00	1013	NE	2	0.6		

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DAILY OPERATIONS REPORT

Project	Geophysical Site Survey Wind Farm Zone Hollandse Kust Zuid	**Project No.**	GH176
Client	Rijksdienst Voor Ondernemend (RVO)	**Vessel**	Victor Hensen
Location	North Sea, Dutch Sector	**Time Zone**	UTC +1 hrs
Personnel: Survey:	L. de Haan, R. McGunnigle, C. Caielli, T. Thanapalan, N. Manaf, J. Hancock, G. Blackie, D. Kumar, V. Minorenti (9)		
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E-Mail Recipients	Fugro: Project Management Team; J. Chisholm		
	Client: Ben de Sonneville; Frank van Erp; Ruud de Bruijne, RVO.SI.HKZ, Peter Kitlowski		

DOR No.	**018**	**Date**	**Sunday, 3 April 2016**

Health, Safety and Environmental Summary

Type	Today #	Total #	Report Needed	Type	Today #	Total #	Report Needed
Safety Induction		11	No	Vessel Coordination Meeting	1	16	Yes
Toolbox Talks	1	44	Yes	Safety Meeting		0	Yes
Reportable Incident		0	Yes	HSE Audit / Inspection		0	Yes
Non-Reportable Incident		0	No	HOC / Stop card		3	Yes
Task Risk Assessment / Reviewed		0	Yes	Vessel Drill		1	No
Fatality		0	Yes	Near Miss Incidents		0	Yes
Day away from Work Case		0	Yes	First Aid Cases		0	Yes
Restricted Work Case		0	Yes	Acc. / Inc. Open / Overdue		0	Yes
Medical Treatment		0	Yes	SWA Exercised (stop wa)		0	Yes
Days since DAWFC		0	Yes	Management Visit		3	Yes

Toolbox Topic Covered Today

Topic Discussed	Nr. Of Attendees
Toolbox Talk: 1x SVP	4

Vessel Water Fuel and Lubes Summary At 24:00Hrs

Type#	O.B. at 00:00 Hrs	Consumed Today	Received / Made Today	R.O.B. At 24:00 Hrs
Fuel (cu.m)	23.8	1.3	0.0	22.5
Lubes (Ltr)	470.0	0.0	0.0	470.0
Water (cu.m)	21.0	2.0	0.0	19.0

PARTY CHIEF COMMENTS	CLIENT REPRESENTATIVE COMMENTS
Party Chief Signature	**Client Representative Signature**
Lennart de Haan - Party Chief onboard MV Victor Hensen	Peter Kitlowski - Client Representative onboard MV Victor Hensen

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C. INCIDENT REPORTS

(5 pages, not numbered)

INCIDENT REPORT

GENERAL

Report Number: 2016-002 Incident Title: SSS Pulled into Tow Block, Lost USBL Beacon

Responsible Department: Offshore Projects
Project Number: GH176

Name of Reporter: Toby Harrison
Client: RVO

Specific Location: Fugro Pioneer
Date / Time Occurred: 13/03/2016
(dd-mmm-yy)

Classification of Incident: *(Tick appropriate box or boxes)*

☐ Injury ☐ Occupational Illness ☐ Near Miss ☐ Non Work Related
☐ Environmental ☒ Property / Equipment ☐ Transportation

Severity of Injury:
Is High Potential (HIPO)? ☐ Yes ☐ No

Lighting: Artificial
Actual Risk Ranking: D2 *(See Corporate Risk Matrix)*
Potential Risk Ranking:

Weather: Wind ENE 25 knots
Wave height 1.0m

DETAILS

Factual description of the incident:

Fugro Pioneer was undertaking geophysical survey operations on behalf of RVO on the Hollandse Kust Zuid proposed wind farm area Offshore Netherlands.

Operations involved towing a side scan sonar (SSS) and a G882 magnetometer which was towed directly behind the SSS via a 20m soft tow. SSS altitude for data acquisition is c.12m. Additional weight (lead) is added to the magnetometer to achieve the project specified altitude of <7m. This altitude difference between the SSS and piggy-back magnetometer means for line turns the SSS has to be recovered further than for regular operations to ensure safe altitude of the magnetometer during the line turn.

Due to shallow water depths (c.20-25m) cable out to the towed fish is short, especially when vessel course over ground and tidal current are in the same direction.

At 23:53 (UTC+1) during shift handover, the SSS and G882 magnetometer were recovered to a short cable for a line turn. The cable was pulled in too far and the SSS was pulled into the tow block resulting in snagging of the tow shackle in the tow block and the loss of the USBL positioning beacon (C-node) and damage to the Macartney tow block.

(Continue on separate sheet if necessary) Attach additional reports such as: Medical, Witness, Log Entries, Photos, Other Entities Incident Reports

Immediate action(s) to prevent recurrence:

Online engineer to pay close attention to SSS Height and Depth information, Also Magnetometer Altitude during cable recovery for line turns. Not only relying on cable counter. Operate winch at slow speed due to short cable out.

Also observe CCTV and view to back deck..

(Continue on separate sheet if necessary)

CONSEQUENCE(S)

Injured Party (IP):
Employee Type:

Injured Body Part:
# of prior hours worked:

Type of Injury:
# of prior days worked:

List of other personnel involved / affected:
(include Direct Supervisor)

Substance Discharged:
Amount:

Released To:
Unit:

Property Owner: Fugro
Est. Value of Loss: €6000

Damaged or Lost Equipment: USBL Beacon (C-Node) lost. asset No: 317093
Macartney tow block damaged (Guide arm and nylon guide blocks). asset No: 317288

Mode of Transportation:
Type of Owner:

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Driver's Name *(If vehicle incident)*:

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INCIDENT REPORT

INVESTIGATION

Lead Investigator: T. Harrison

Other Team Members: K.Bos, R.Singh, G.Reynolds, F.Lucenti

General Notes / Contributing Factors:

Short cable out to SSS due to shallow water depths especially with following current.

5m + altitude difference required between SSS and Piggy-back magnetometer. SSS needs to be recovered further than during standard operation to ensure Magnetometer safe altitude during line turn.

Handover coincided during end of line and cable recovery. Possible distraciton to operator.

No trip switches on tow blocks for cut-out to prevent occurrence.

(Continue on separate sheet if necessary)

Immediate Causes:

Cable recovered too far, pulling the SSS into the Tow Block.

(Continue on separate sheet if necessary)

Root Causes:

Short cable out due to shallow water depth.

Altitude difference between SSS and Magnetometer, requires more cable to be recovered for line turns than during normal operation to ensure safe altitude of magnetometer during line turn.

No trip switches on tow blocks for cut-out to prevent occurrence.

(Continue on separate sheet if necessary)

ACTIONS

	Action to be taken	Responsible Person	Target Date
1	Close attention to SSS Height and Depth information, Also Magnetometer Altitude during cable recovery for line turns. Not only relying on cable counter. Operate winch at slow speed due to short cable out.	Online Engineer	14/03/2016
2	CCTV camera overhead panel to be set to A-frame tow point.	Online Engineer	14/03/2016
3	Investigate installation of automated kill switch on tow block and integration to Emergency stop.	Technical Coordinator PM to approve	31/03/2016
4			
5			
6			

(Continue on separate sheet if necessary)

Other details:

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