



DATE TEHNICE / ENGINEERING DATA													
DATE CONDUCTA	ELEMENTE TRASEU		ROUTE ITEMS	STRAIGHT HEADING (°N) / BEND RADIUS (m)		10,000		19° 39' 41"		NU EXISTA / NONE			
	TRAVERSARE CONDUCTA / CABLU			CABLE / PIPELINE CROSSING									
	TIP SOL LA SUPRAFATA FUNDULUI MARI			SURFACE SEABED SOIL		ZONA 2 - NISIP (NOTA 9) / ZONE 2 - SAND (NOTE 9)				ZONA 3 - ARGILA / ZONE 3 - CLAY (NOTE 9)			
	TIP OTEL / DIAM. EXT. (mm) / GROSIME PERETE (mm)			STEEL GRADE / O.D. (mm) / WALL THICKNESS (mm)				DNV SAWL 450 FDU / 762 / 17.5					
	GROS.PERETE DISP. ANTIDEFORMARE (mm)/ INTERVAL (m)			BUCKLE ARRESTOR W.T. (mm) / SPACING (m)				22.8 / 500					
	STRAT ANTI-COROZIV/GROS (mm)/DENSITATE(kg/m³)			ANTI-CORR. COAT / THICK (mm) / DENSITY (kg/m³)				FBE / 0.38 - 0.815 / 1,350					
	STRAT INT. PROT. / GROSIME (µm) / DENSITATE (kg/m³)			INTERNAL COAT. / THICK (µm) / DENSITY (kg/m³)				STRAT INTERIOR PROTECTIE (NOTA 10) / 50 / 1,500 / INTERNAL FLOW COAT (NOTE 10) COATING / 50 / 1,500					
	STRAT BETON- GROSIME (mm) / DENSITATE (kg/m³)			CONCRETE COATING-THICK (mm) / DENSITY (kg/m³)		55 / 3,050				80 / 3,050			
	TIP SUDURA / TIP UMPLUTURA / DENSITATE (kg/m³)			FIELD JOINT TYPE / INFILL / DENSITY (kg/m³)				FBE + POLIURETAN / FBE + POLYURETHANE / 128 - 224					
	TIP ANOD / MASA (Kg) / INTERVAL MONTAJ (segmente)			ANODE BRACELETS TYPE / MASS (kg) / SPACING (joints)		ALUMINIU (40x800) / 161 / 1 LA 10 SEGMENTE / AI (40x800) / 161 / 1 EVERY 10 JOINTS		ALUMINIU (50x775) / 198 / 1 LA 10 SEGMENTE / AI (50x775) / 198 / 1 EVERY 10 JOINTS					
DATE CONDUCTA	GREUTATE CONDUCTA (kN/m)	IN APA	GOALA (kN/m) / SG	IN AER (USCATA) (kN/m)	PIPELINE WEIGHT (kN/m)	IN AIR (DRY) (kN/m)		7.392		9.502			
						EMPTY (kN/m) / SG		1.447 / 1.24		2.856 / 1.43			
						SUBMERGED		FLOODED (kN/m) / SG		5.572 / 1.94		6.981 / 2.05	
						OPERATION (kN/m) / SG		1.581 / 1.27		2.989 / 1.45			
LUCRARI PRE INSTALARE CONDUCTA	ADANCIME DRAGARE (m) / LATIME (m)		PRE-LAY INT. WORKS	DREDGING DEPTH (m) / WIDTH (m)		NU EXISTA / NONE		NU EXISTA / NONE		NU EXISTA / NONE			
	SUPPORTI / SALTELE BETON			SLEEPERS / MATTRESSES		NU EXISTA / NONE		NU EXISTA / NONE		NU EXISTA / NONE			
LUCRARI POST INSTALARE CONDUCTA	ADANCIME SANT (m)		POST-LAY INT. WORKS	TRENCHING DEPTH (m)		NU EXISTA / NONE		NU EXISTA / NONE		NU EXISTA / NONE			
	TIP UMPLUTURA / STRAT ACOPERITOR (m)			BACKFILLING TYPE / COVER TOP (m)		NU EXISTA / NONE		NU EXISTA / NONE		NU EXISTA / NONE			
LUNGIME TRONSON ADMISA	STRAT PIETRIS		ALLOWABLE SPAN LENGTH	GRAVEL DUMPING		NU EXISTA / NONE		NU EXISTA / NONE		NU EXISTA / NONE			
	INSTALARE (m)			INSTALLATION (m)		82.9		80.4		75.5			
	HIDRO-TEST (m)			HYDROTEST (m)		53.0		4.0		4.0			
	FUNCTIONARE (m)			OPERATION (m)		58.0		4.0		4.0			
CERINTE SPECIFICE	TOLERANTA LA INSTALARE (m)		SPECIFIC REQUIREM.	LAY TOLERANCE (m)		±10		±10		±10			
	ALTELE			OTHER									

SE APLICA PREVEDERILE PRIVIND CONFIDENTIALITATEA DIN CONTRACTUL DE CONCESIUNE NEPTUN DEEP SI A CONTRACTULUI DE OPERATII COMUNE AFERENT SI/SAU CONTRACTULUI DE CONFIDENTIALITATE APLICABIL IN NOMELE EXXONMOBIL EXPLORATION AND PRODUCTION ROMANIA LIMITED

SUBJECT TO CONFIDENTIALITY PROVISIONS OF THE NEPTUN DEEP CONCESSION AGREEMENT AND RELATED JOINT OPERATING AGREEMENT AND/OR THOSE OF THE APPLICABLE NON-DISCLOSURE AGREEMENT ON BEHALF OF EXXONMOBIL EXPLORATION AND PRODUCTION ROMANIA LIMITED.

**NOTE**

1. DACA NU SE PRECIZEAZA ALT FEL TOATE DIMENSIUNILE SUNT EXPRIMATE IN METRI.

2. TOATE COTELE DE NIVEL SUNT IN METRI, RELATIV LA NIVELUL MARI.

3. DATELE BATIMETRICE PROVIN DIN BAZA DE DATE GEOTEHNICE SI GEOFIZICE GIS ACTUALIZATA IN 2016, DOCUMENT FUGRO J31135-R-001(03) ACTUALIZAT PENTRU PROIECTUL NEPTUN DEEP. BATIMETRIA PENTRU ACCES PLATFORMA ACTUALIZATA PRIN DOC. FUGRO 160424.V3 (2017).

4. DATELE DE SOL PROVIN DIN RAPORTUL INTEGRAT NEPTUN DEEP ROND-EW-GRRPT-00-0015-001 A SE VEDEA DOCUMENTUL CU NUMARUL ROND-EW-YBDBM-20-0002. DATELE DE SOL LA LOCATIA PLATFORMEI ACTUALIZATE CU MASURATORILE FUGRO 2017.

5. DIRECTILE SUNT INDICATE IN RAPORT CU NORUL STEREO 70.

6. PENTRU DETALII PRIVIND MODUL DE CONECTARE LA LOCATIA PLATFORMEI SE VA CONSULTA PLANSA ROND-EW-YDPAL-22-0011 - ARANJAMENT CONDUCTA DE ADUCTIUNE SI CONDUCTA DE GAZE NATURALE LA PLATFORMA (SWP).

7. STERS.

8. PENTRU DETALII PRIVIND ANOZI CONSULTATI PLANSA ROND-EW-YDCPD-24-0002 SI DOCUMENTUL ROND-EW-YRSTY-24-0002.

9. CARACTERIZAREA SOLULUI ESTE BAZATA PE NOTA TEHNICA 408009-00349-TN-003 (A SE VEDEA SI NOTA 4).

10. STRAT INTERIOR CONDUCTA CONFORM SPECIFICATIEI STRAT EPOXIDIC INTERN ROND-EW-YSPOS-20-0039.

11. A SE NOTA CA GROSIMEA ANOZILOR SI DISTANTA ADMISA DINTRE EI VOR FI RE-EVALUATE IN DETALIE DE EXECUTIE IN BAZA GROSIMII ACTUALE A STRATULUI DE BETON.

**NOTES**

1. ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.

2. ALL ELEVATIONS ARE IN METERS AND RELATIVE TO MSL.

3. BATHYMETRY DATA FROM 2016 GEOTECHNICAL AND GEOPHYSICAL GIS DATABASE UPDATE, FUGRO DOCUMENT J31135-R-001(03) FOR THE NEPTUN DEEP DEVELOPMENT. PLATFORM APPROACH BATHYMETRY UPDATED BY FUGRO DOC. 160424.V3 (2017).

4. SEABED SOIL DATA FROM NEPTUN DEEP INTEGRATED REPORT ROND-EW-GRRPT-00-0015-001. SEE DESIGN DOCUMENT NUMBER ROND-EW-YBDBM-20-0002. PLATFORM LOCATION SOIL DATA UPDATED BY FUGRO SURVEY 2017.

5. HEADINGS INDICATED ARE RELATIVE TO STEREO 70 NORTH.

6. FOR DETAILS OF TIE-INS AT PLATFORM LOCATION REFER TO DRAWING: ROND-EW-YDPAL-22-0011 - FLOWLINE AND PRODUCTION LINE PLATFORM (SWP) APPROACH ARRANGEMENT.

7. DELETED.

8. FOR ANODE DETAILS REFER TO DRAWING ROND-EW-YDCPD-24-0002 & DOCUMENT ROND-EW-YRSTY-24-0002.

9. SOIL CHARACTERIZATION BASED ON TECHNICAL NOTE 408009-00349-TN-003 (SEE ALSO NOTE 4).

10. INTERNAL FLOW COAT AS PER INTERNAL EPOXY COATING SPECIFICATION ROND-EW-YSPOS-20-0039.

11. NOTE THAT ALLOWABLE SPANS AND ANODE THICKNESSES ARE TO BE RE-ASSESSED IN DETAILED DESIGN BASED UPON ACTUAL CONCRETE COATING THICKNESSES.

**DOCUMENTE REFERINTA**

NUMAR PLANS	DESCRIERE	DRAWING NUMBER	DESCRIPTION
ROND-EW-YDCPD-24-0002	DETALII TIPICE ANOZI CONDUCTA DE GAZE NATURALE	ROND-EW-YDCPD-24-0002	PRODUCTION PIPELINE TYPICAL ANODE DETAILS

**REFERENCE DOCUMENTS**

DRAWING NUMBER	DESCRIPTION
ROND-EW-YDCPD-24-0002	PRODUCTION PIPELINE TYPICAL ANODE DETAILS

**SCALA**

SCALA ORIZZONTALA 1:20,000 (IN FORMAT "A1")

**SCALE BAR**

HORIZONTAL SCALE 1:20,000 (AT "A1" SIZE)

**PARAMETRI GEODEZIE SI PROIECTIE**

DATE GEODEZICE	STEREO 70
PROIECTIE	Double Stereographic
Meridianul central (MC)	25.0
Latitudine Origine	46.0
Falsae origine estica	500,000.0
Falsae origine nordica	500,000.0
Factor de scala la MC	0.99975
DATE VERTICALE	MSL (NIVELUL MARI)

**GEODETTIC & PROJECTION PARAMETERS**

GEODETTIC DATUM	STEREO 70
PROJECTION	Double Stereographic
Central meridian (CM)	25.0
Latitude of Origin	46.0
False Easting at origin	500,000.0
False Northing at origin	500,000.0
Scale factor at CM	0.99975
VERTICAL DATUM	MSL

**PLAN DE REFERINTA / KEY PLAN**

**PROIECT NEPTUN DEEP / NEPTUN DEEP PROJECT**

REV	REV DATE	REV DESCRIPTION	ORIG	REV	APP	APP
2	15DEC17	RE-ISSUED FOR IFD	FK	EP	SS	JG
1	26SEP17	RE-ISSUED FOR IFD	FK	EP	SS	JG
0	04AUG17	ISSUE FOR IFD	RO	EP	SS	JG

**ACRONIME**

TP - PUNCT SCHIMBARE DIRECTIE

KP - POZITIE KILOMETRICA (CONDUCTA)

IP - PUNCT INFLEXIUNE

**ACRONYMS**

TP - TURN POINT

KP - KILOMETRIC POINT

IP - INFLEXION POINT

Conform legislatiei romanesti, virgula si punctul sunt utilizate invers, pentru definirea zecimalelor.

Dimensiunile in sistem US au fost definite astfel: Simbolul virgula a fost folosit pentru separarea cifrelor din interiorul numerelor care definesc sute, mii sau zeci in functie de caz. Subunitatile de masura (zecimalele) au fost separate prin punct. Prin urmare zecimalele vor fi cifrele din interiorul numerelor aliate dupa simbolul punct.

According to the Romanian legislation, the comma and the point are used in reverse, for the definition of decimals.

The dimensions in the US system have been defined as follows: The comma symbol has been used to separate digit inside the numbers when the digit define hundreds, thousands or tens depending on the case. The digit of decimals are separated by a point. In according with the rules in Romania the coma and point are use in opposite way for defined the digit inside of number. For this reason all the digit inside of number after point will be read like decimals.

**ExxonMobil**

Exploration and Production Romania Limited

CONDUCTA DE GAZE NATURALE 30" 30-INCH PRODUCTION PIPELINE

FISA ALINIAMENT ALIGNMENT SHEET

FISA NR. 004 DIN 016 SHEET 004 OF 016

1 : 20,000 ROND-EW-YDPAL-24-0006-C DTAC 2-E

SCALE / SCALA 1:20,000 ROND-EW-YDPAL-24-0006-C DTAC 2-E

PARA / PARAM: REV / REV: A1+ (1092-594)