



DATE TEHNICE / ENGINEERING DATA																					
						KP 20.000		KP 20.975 KP 21.075 KP 21.175 KP 21.275 KP 21.375 KP 21.475 KP 21.575				KP 23.417		KP 24.500 KP 24.601 KP 24.651 KP 24.701		KP 25.000					
ELEMENTE TRASEU	ORIENTARE (°N) / RAZA DE CURBURA (m)		ROUTE ITEMS	STRAIGHT HEADING (°N) / BEND RADIUS (m)		59° 53' 12"										4,000		77° 33' 42"			
	TRAVERSARE CABLU/CONDUCTA			CABLE / PIPELINE CROSSING		NU EXISTA / NONE															
DATE CONDUCTA	TIP SOL LA SUPRAFATA FUNDULUI MARII		PIPELINE DATA	SURFACE SEABED SOIL		ZONA 1 - ARGIILA VERZUI-INCHIS CU REZISTENTA FOARTE SCAZUTA(NOTE 4) / ZONA 3 - ARGIILA VERZUI-INCHIS CU REZISTENTA FOARTE SCAZUTA (NOTA 4) / ZONE 3 - EXTREMELY LOW STRENGTH DARK GREENISH CLAY (NOTE 4)															
	TIP DTCL / D. EXT. (mm) / GROSIME PERETE (mm)			STEEL GRADE / O.D. (mm) / WALL THICKNESS (mm)		DNV SAWL 450 SFPU / 457.2 / 26.1															
	GROSIME PERETE DISP. ANTIDEFORMARE(mm)/ INTERVAL (m)			BUCKLE ARRESTOR W.T. (mm) / SPACING (m)		NU EXISTA / NONE															
	STRAT ANTI-COROZIV/GROSIME(mm)/DENSITATE(kg/m³)			ANTI-CORR. COAT / THICK (mm) / DENSITY (kg/m³)		NU SE APLICA / N/A															
	STRAT TERMOIZOLANT/GROSIME (mm)/DENSITATE (kg/m³)			EXT. THER. INS. COAT./THICK (mm)/DENSITY (kg/m³)		FBE + POLIPROILENA SINTETICA / 75 / 790 (NOTA 11) / FBE + SYNTACTIC POLYPROPYLENE / 75 / 790 (NOTE 11)															
	STRAT BETON / STRAT INTERIOR PROTECTIE			CONCRETE COATING / INTERNAL COATING		NU EXISTA / NONE															
	TIP SUDURA/TIP UMPLUTURA/DENSITATE (kg/m³)			FIELD JOINT TYPE / INFILL / DENSITY (kg/m³)		POLIURETAN / POLYURETHANE / 950 (TIP / TYP)															
	TIP ANOD PROTECTIE / INTERVAL PLASARE (NR. DE SEGMENTE)			ANODE BRACELETS TYPE / SPACING (joints)		ALUMINIU (300mm x 50mm) 1 LA 24 SEGMENTE / AL (300mm x 50mm) / 1 EVRY 24 JOINTS															
	GREUTATE CONDUCTA (kN/m)			IN AER (USCATA) (kN/m)		PIPELINE WEIGHT (kN/m)		3.6927													
	IN APA			GOALA (kN/m) / SG		EMPTY (kN/m) / SG		0.7820 / 1.27													
		INUNDATA (kN/m) / SG		SUBMERGED FLOODED (kN/m) / SG		2.0769 / 1.71															
		FUNCTIONARE (kN/m) / SG		OPERATION (kN/m) / SG		0.9361 (IN MEDIE / AVERAGE) / 1.32															
DATE INCALZIRE ELECTRICA DIRECTA (NOTE 13)	D. EXT. (mm)		DEH DATA (NOTE 13)	DEH CABLE WEIGHT (kN/m)		125															
	IN AER (USCATA) (kg/m)			IN AIR (DRY) (kg/m)		43															
		IN APA (kg/m) / SG		SUBMERGED (kg/m) / SG		32 / 3.9															
TIP LEGATURI/NR. DE LEGATURI PE SEGMENT				TYPE OF STRAP/No. OF STRAPS PER JOINT		VA FI CONFIRMAT / T.B.D.															
LUCRARI PRE-INSTALARE CONDUCTA	ADANCIME DRAGARE (m) / LATIME (m)		PRE-LAY INT. WORKS	DREDGING DEPTH (m) / WIDTH (m)		NU EXISTA / NONE															
	SUPORTI			SLEEPERS		INITIATOR FLAMBAJ BI-18-03 (NOTA 9) / BUCKLE INITIATOR BI-18-03 (NOTE 9) INITIATOR FLAMBAJ BI-18-04 (NOTA 9) / BUCKLE INITIATOR BI-18-04 (NOTE 9)															
LUCRARI POST-INSTALARE CONDUCTA	ADANCIME SANT (m)		POST-LAY INT. WORKS	TRENCHING DEPTH (m)		NU SE APLICA / N/A															
	TIP UMPLUTURA / INALTIME STRAT ACOPERIRE (m)			BACKFILLING TYPE / COVER TOP (m)		NU SE APLICA / N/A															
		DEPUNERE AGREGAT/PIETRIS				NU SE APLICA / N/A															
LUNGIME TRONSON ADMISA	INSTALARE (m)		ALLOWABLE SPAN LENGTH (NOTE 12)	INSTALLATION (m)		59.2										56.2		53.3			
	HYDRO-TEST (m)			HYDROTEST (m)		25.6										23.4		22.3			
		FUNCTIONARE (m)		OPERATION (m)		40.1										40.2		39.1			
CERINTE SPECIFICE	TOLERANTA LA INSTALARE (+/-m)		SPECIFIC REQUIREM.	LAY TOLERANCE (+/-m)		±10										±10		±10			
	ALTELE			OTHER		±2												±2			

NOTA / NOTE:

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SE APLICA PREVEDERILE PRIVIND CONFIDENTIALITATEA DIN CONTRACTUL DE CONCESIUNE NEPTUN DEEP SI A CONTRACTULUI DE OPERATII COMUNE AFERENT SI/SAU CONTRACTORUL DE CONFIDENTIALITATE APLICABILE IN NIMEL EXONMOBIL 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 EXONMOBIL EXPLORATION AND PRODUCTION ROMANIA LIMITED.	
NOTE		NOTES	
1. DACA NU SE PRECIZEAZA ALTTEL TOATE DIMENSIUNILE SUNT EXPRIMATE IN METRI. 2. TOATE COTELE DE NIVEL SUNT IN METRI, RELATIV LA NIVELUL MARII. 3. DATELE BATIMETRICE PROVIN DIN BAZA DE DATE GEOTEHNICE SI GEOFIZICE GIS ACTUALIZATE IN 2014, DOCUMENT FUGRO J31135-R-001031. PENTRU PROIECTUL NEPTUN DEEP, BATIMETRIA PENTRU ACCESUL LA LOCATIA PLATFORMEI A FOST ACTUALIZATA PRIN DOCUMENTUL FUGRO 160424_V3 (2017). 4. DATELE DESPRE SOLUL DE PE FUNDUL MARI PROVIN DIN RAPORTUL INTEGRAT NEPTUN DEEP ROND-EW-GRPT-00-005-001 A SE VEDEA DOCUMENTUL CU NUMARUL ROND-EW-YBDBM-20-0002 PENTRU DATE DESPRE SOL LA LOCATIA PLATFORMEI ACTUALIZAT CU MASURATORILE FUGRO 2017. 5. ORIENTARILE INDICATE DUPEA NORUL STEREO 70. 6. PENTRU DETALI PRIVIND LEGATURILE CU PLATFORMA SI LA LOCATIA SONDELOR SUBMARINE VEZI DOCUMENTELE : ROND-EW-YDLAY-22-0012, ROND-EW-YDLAY-22-0005 SI ROND-EW-YDPLX-21-0003/0004. 7. PORTIUNILE CONDUCTEI DE ADUCTIUNE SITUATE IN AFARA SANTURILOR SI IN APROPIEREA MOSORULUI PLATFORMEI DE PRODUCTIE, VOR FI PROTEJATE CU SALTILE. 8. DISTANTA MINIMA INTRE CONDUCTA DE ADUCTIUNE SI SISTEMUL OMBILICAL ESTE DE 100m.(NOMINAL120m, INCLUZAND TOLERANTEI DATORITA CERINTELOR INCALZIRII ELECTRICE DIRECTE (DEH)). 9. PENTRU POZITIA SI CONFIGURATIA INITIATORULUI DE CURBURA VEZI DOC. ROND-EW-YDLAY-21-0012 / 0013. 10. PENTRU DETALI PRIVIND LUCRARILE DE PRE-INTERVENTIE, LEGATE DE PROFILUL SANTULUI CONSULTATI DOC. ROND-EW-YDPLX-21-0003/0004. 11. SE VA CONFIRMA GROSIMEA NECESARA PENTRU IZOLATIE CONFORM FISA DE DATE TEHNICE PENTRU IZOLATIE ROND-EW-YSTDs-20-0031. 12. A SE CONSULTA ROND-EW-YRSTs-21-0002, RAPORT TRONSON. 13. A SE CONFIRMA PROPRIETATILE INCALZIRII ELECTRICE DIRECTE (DEH) IN PROIECTUL DETALIAT.		1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE. 2. ALL ELEVATIONS ARE IN METERS AND RELATIVE TO MSL. 3. BATHYMETRY DATA FROM 2014 GEOTECHNICAL AND GEOPHYSICAL GIS DATABASE UPDATE, FUGRO DOCUMENT J31135-R-001031 FOR THE NEPTUN DEEP DEVELOPMENT. PLATFORM LOCATION APPROACH BATHYMETRY UPDATED BY FUGRO DOCUMENT 160424_V3 (2017). 4. SEABED SOIL DATA FROM NEPTUN DEEP INTEGRATED REPORT ROND-EW-GRPT-00-005-001 SEE DESIGN DOCUMENT NUMBER ROND-EW-YBDBM-20-0002 FOR 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 AND SUBSEA WELL LOCATION REFER TO DRAWING: ROND-EW-YDLAY-22-0012, ROND-EW-YDLAY-22-0005 AND ROND-EW-YDPLX-21-0011. 7. AT SHALLOW WATER PLATFORM POOL AND NO TRENCHED FLOWLINE SECTION WILL BE PROTECTED BY MATTRESSES. 8. MINIMUM DISTANCE OF 100m BETWEEN FLOWLINE AND UMBILICAL (120m NOMINAL INCLUDING TOLERANCES) DUE TO DEH REQUIREMENTS. 9. FOR BUCKLE INITIATOR POSITION AND CONFIGURATION REFER TO ROND-EW-YDLAY-21-0012 / 0013. 10. PRE-INTERVENTION WORKS FOR TRENCHING PROFILE DETAILS REFER TO ROND-EW-YDPLX-21-0003/0004. 11. THICKNESS TO BE CONFIRMED WHILE MEETING INSULATION REQUIREMENTS IN ROND-EW-YSTDs-20-0031, TECHNICAL DATA SHEET FOR INSULATION. 12. REFERENCE ROND-EW-YRSTs-21-0002, SPAN REPORT. 13. DEH PROPERTIES TO BE CONFIRMED DURING DETAILED DESIGN.	
DOCUMENTE DE REFERINTA		REFERENCE DOCUMENTS	
NUMAR PLANSA	DESCRIERE	DRAWING NUMBER	DESCRIPTION
ROND-EW-YDLAY-22-0012	PLAN ACCES SISTEM OMBILICAL LA DOMINO DODC1	ROND-EW-YDLAY-22-0012	DOMINO FLOWLINE WELL APPROACH LAYOUT DODC-1
ROND-EW-YDLAY-22-0005	PLAN ACCES SISTEM OMBILICAL LA DOMINO DODC2	ROND-EW-YDLAY-22-0005	DOMINO FLOWLINE WELL APPROACH LAYOUT DODC-2
ROND-EW-YDLAY-22-0011	ARANJAMENT ACCES CONDUCTA DE ADUCTIUNE SI CONDUCTA GAZE NATURALE LA PLATFORMA (SWP)	ROND-EW-YDLAY-22-0011	FLOWLINE AND PRODUCTION LINE PLATFORM (SWP) APPROACH ARRANGEMENT
ROND-EW-YDLAY-22-0003/0008	FISE ALINIAMENT SISTEM OMBILICAL DOMINO	ROND-EW-YDLAY-22-0003/0008	DOMINO UMBILICAL ALIGNMENT SHEETS
ROND-EW-YDPLX-21-0003/0004	LUCRARI INTERVENTIE PRE-INSTALARE	ROND-EW-YDPLX-21-0003/0004	DOMINO PRE-LAY INTERVENTION WORKS
SCALA		SCALE BAR	
0 100 500 1,000 METRI SCALA ORIZONTALA 1:10,000 (FORMAT "A1")		0 100 500 1,000 METERS HORIZONTAL SCALE 1:10,000 (AT "A1" SIZE)	
PARAMETRI GEODEZIE SI DE PROIECTIE		GEODETIC & PROJECTION PARAMETERS	
DATE GEODEZICE	: STEREO 70	GEODETIC DATUM	: STEREO 70
PROIECTIE	: Dublu Stereografica	PROJECTION	: Double Stereographic
Meridianul Central (MC)	: 25.0	Central meridian (CM)	: 25.0
Latitudine Origine	: 46.0	Latitude of Origin	: 46.0
Falsa origine estica	: 500,000.0	False Easting at origin	: 500,000.0
Falsa origine nordica	: 500,000.0	False Northing at origin	: 500,000.0
Factor de scala la MC	: 0.99975	Scale factor at CM	: 0.99975
DATE VERTICALE	: MSL (NIVELUL MARII)	VERTICAL DATUM	: MSL
PLAN DE REFERINTA/KEY PLAN			

NOTA / NOTE:

Planşa este întocmită în sistemul de coordonate WGS 84. Coordonatele STEREO 70 au fost obţinute prin conversie, folosind metode electronice de calcul şi parametri specifici. Conversia presupune transformări (translaţii, rotaţii şi/sau scalări) ale coordonatelor WGS 84. Definiţiile sunt documentele realizate în sistemul WGS 84. Acestea vor fi utilizate în scopul punerii în opera a proiectului. Documentele emise în sistemul STEREO 70 reprezintă răspunsul la cerinţele autorităţilor şi legislaţiei româneşti.

The plan is prepared in WGS 84 coordinate system. The STEREO 70 coordinates were obtained by conversion, using electronic calculation methods and specific parameters. The conversion involves transformations (translations, rotations and/or scaling) of the WGS 84 coordinates. The defining are the documents made in the WGS 84 system. These will be used for the purpose of implementing the project. The documents issued in the STEREO 70 system represent the answer to the requirements of the Romanian authorities and legislation.

Conform legislaţiei româneşti, virgula şi punctul sunt utilizate invers, pentru definirea zecimalelor. Dimensiunile în sistem US au fost definite astfel: Simbolul virgula a fost folosit pentru separarea cifrelor din interiorul numere care definesc sute, mii sau zeci în funcţie de caz. Subunităţile de măsură (zecimalele) au fost separate prin punct. Prin urmare zecimalele vor fi citite din interiorul numerelor aflate după 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.

PROJECT NEPTUN DEEP / NEPTUN DEEP PROJECT

1-C	12.03.21	EMIS PENTRU VERIFICARE / ISSUED FOR REVIEW	M. OLUMTRU	C. STEFAN	N. EREMA
1-C	11.01.21	EMIS PENTRU VERIFICARE / ISSUED FOR REVIEW	M. OLUMTRU	C. STEFAN	N. EREMA
1-B	28.05.20	EMIS PENTRU VERIFICARE / ISSUED FOR REVIEW	O. MOISE	C. STEFAN	N. EREMA
1-A	29.03.20	EMIS PENTRU VERIFICARE / ISSUED FOR REVIEW	O. MOISE	C. STEFAN	N. EREMA
REV	DATE	RELAZARE / SCALA REVIZIE / ISSUE, SCOPE OF REVISION	DESIGNAT / PREPARED	PROIECTAT / DESIGNED	SEF PROIECT / APPROVED
PROIECTOR / CHECKER			I. BUTNARIU		ANRE
REDACTOR/EDITOR	REFERAT NR. / EXPRITIZARE NR. / DATA / CHECKER REPORT / EXPRITIZARE NO. / DATE		NUME / NAME	SIMNATURA / SIGNATURE	DOMENIU / ENGINEERS
		PROIECTOR / ENGINEERING CONTRACTOR J.P. CONSULTING ENGINEERS ROMANIA STR. NEPTUN VODA NR.16, 100166, FLORESTI S.C. JEREMY PROMASTER S.R.L. STR. CURCUBULUI, NR. 44, FLORESTI.			
1	16OCT17	RE-ISSUED FOR IFD	RO EP SS JG		
0	07JUL17	ISSUE FOR IFD	RO EP SS JG		
REV.	REV DATE	REV DESCRIPTION	ENG	REV	APP / PRG / APP

ExxonMobil

Exploration and Production Romania Limited

CONDUCTA DE ADUCTIUNE DOMINO DOMINO FLOWLINE

FISA ALINIAMENT ALIGNMENT SHEET

FISA DIN 8 SHEET 5 OF 8

1 : 10,000	ROND-EW-YDPAL-21-0009-C	DTAC	1-D
SCALA / SCALE	NR. PLANSA / DWG. NO.	FAZA / PHASE/REV. / REV.	A1+ (1092694)