



DATE TEHNICE / ENGINEERING DATA									
ELEMENTE TRASEU	ORIENTARE (°N) / RAZA CURBA (m)		ROUTE ITEMS	STRAIGHT HEADING (°N) / CURVE RADIUS (m)		DATE	TIME	BY	CHECKED
	TRAVERSARE	CONDUCTA		PIPELINE					
DATE SISTEM OMBILICAL	TIP SOL PE SUPRAFATA FUNDULUI MARI	CABLU	CROSSING	CABLE					
	DIAMETRU EXTERIOR (mm)		SEABED GROUND SOIL						
	GREUTATE IN AER (USCATA)		OD (mm)						
	GREUTATE IN APA		DRY WEIGHT						
	RAZA MINIMA CURBA (m) INSTALARE / FUNCTIUNE		SUBMERGED WEIGHT						
SAPATURA & UMPLERE	ADANCIME SANT (m)		MIN. CURVE RADIUS (m) INSTALLATION / OPERATION						
	TIP UMPLUTURA / STRAT ACOPERIRE (m)		TRENCHING DEPTH (m)						
CERINTE SPECIFICE	TOLERANTA LA INSTALARE (m)		BACKFILLING TYPE / COVER TOP (m)						
	STRAT PIATRA / SALTELE		LAY TOLERANCE (m)						
				ROCK DUMP / MATTRESSES					

PLANS / PLANES

DATE / NOTES

Plansa este intocmita in sistemul de coordonate WGS 84. Coordonatele STEREO 70 au fost obtinute prin conversie, folosind metode electronice de calcul si parametri specifici. Conversia presupune transformari (translatari, rotiri si/sau scalari) ale coordonatelor WGS 84. Definitorii sunt documentele realizate in sistemul WGS 84. Acestea vor fi utilizate in scopul punerii in opera a proiectului. Documentele emise in sistemul STEREO 70 reprezinta raspunsul la cerintele autoritatilor si legislatiei romanesti.

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.

SE APlica PREVEDERILE PRIVIND CONFIDENTIALITATEA DIN CONTRACTUL DE CONCESIUNE NEPTUN DEEP SI A CONTRACTULUI DE OPERATiUNE COMINE APERT SI/SAU CONTRACTULOR DE CONFIDENTIALITATE APPLICABLE IN NUMELE 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	NOTES
1. DACA NU SE PRECIZEAZA ALTFEI 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 GEOCHIMICE SI GEOFIZICE GIS ACTUALIZATE IN 2014, DOCUMENT FUGRO J3135-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-YDPAL-22-0005-001. A SE VEDEA DOCUMENTUL CU NUMARUL ROND-EW-YDPAL-22-0002 PENTRU DATE DESPRE SOL LA LOCATIA PLATFORMEI ACTUALIZAT CU MASURATURILE FUGRO 2017. 5. PENTRU DETALII PRIVIND CONEXIUNILE DINTRE PLATFORMA SI SONDELE SUBMARINE, SE VOR CONSULTA PLANSELE: -ROND-EW-YDPAL-22-0012 - PLAN ACCES SISTEM OMBILICAL CONDUCTA ADUCTIUNE DOMINO LA DODC1; -ROND-EW-YDPAL-22-0005 - PLAN ACCES SISTEM OMBILICAL CONDUCTA ADUCTIUNE DOMINO LA DODC2; -ROND-EW-YDPAL-22-0011 - PLAN ACCES CONDUCTA ADUCTIUNE SI CONDUCTA GAZE NATURALE LA PLATFORMA DE PRODUCTIE (ISWP). 6. IN ZONA PLATFORMEI DE PRODUCTIE, SISTEMUL OMBILICAL VA FI PROTEJAT CU SALTELE DIN BETON. 7. SISTEMUL OMBILICAL VA FI AMPLASAT IN SANT, DE LA PLATFORMA DE PRODUCTIE, PANA LA O ADANCIME DE 200m. 8. LUNGIMEA FINALA A SISTEMULUI OMBILICAL NU INCLUDE LUNGIMEA TUBULUI J SI LUNGIMEA SURPLUSULUI DE PE FUNDUL MARI PENTRU TRACTARE SAU SITUATII NEPREVAZUTE. 9. DATELE SISTEMULUI OMBILICAL TREBUIE SA FIE CONFIRMATE DUPA DESEMNAREA FURNIZORULUI. VALORILE CURENTE SUNT INDICATIVE SI VOR FI ADOPTATE CAND VOR FI STIUTE. 10. ORIENTARILE INDICATE DUPEA NORDUL STEREO 70. 11. LUNGIMEA FINALA A SISTEMULUI OMBILICAL DOMINO DE LA SWP LA DODC-1 ESTE EGALA CU 26,910m. ACEASTA EXCLUDE LUNGIMEA DE 190m A TUBULUI J SI APROXIMATIV 60m LUNGIMEA SURPLUSULUI. 12. CURBA DE COMPENSARE DE APROXIMATIV 60m, AJUSTAREA FINALA A LUNGIMII CURBEI DE COMPENSARE VA FI DETERMINATA IN PROIECTUL DETALIAT. AJUSTAREA FINALA A SISTEMULUI OMBILICAL DE 3m, DACA ESTE NECESARA PENTRU ALINIERE. 13. DISTANTA MINIMA DE 100m INTRE CONDUCTA DE ADUCTIUNE SI SISTEMUL OMBILICAL (120m INCLUZAND TOLERANTE) DATORITA CERINTELOR NCALZIRII ELECTRICE DIRECTE (DEH) 14. TIPUL DE UMPLUTURA VA FI CONFIRMAT 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, GEOCHEMICAL AND GEOPHYSICAL GIS DATABASE UPDATE, FUGRO DOCUMENT J3135-R-001031 FOR THE NEPTUN DEEP DEVELOPMENT. PLATFORM LOCATION APPROACH BATHYMETRY UPDATED BY FUGRO DOCUMENT NUMBER 160424_V3 (2017) 4. SEABED SOIL DATA FROM NEPTUN DEEP INTEGRATED REPORT ROND-EW-GRPT-00-0015-001, SEE DESIGN DOCUMENT NUMBER ROND-EW-YBDBM-20-0002 FOR PLATFORM LOCATION SOIL DATA UPDATED BY FUGRO SURVEY 2017. 5. FOR DETAILS OF TIE-INS TO THE PLATFORM AND THE SUBSEA WELLS REFER TO DRAWINGS: - ROND-EW-YDOLAY-22-0012 - DOMINO FLOWLINE UMBILICAL WELL APPROACH LAYOUT DODC1 - ROND-EW-YDOLAY-22-0005 - DOMINO FLOWLINE UMBILICAL WELL APPROACH LAYOUT DODC2 - ROND-EW-YDPAL-22-0011 FLOWLINE AND PRODUCTION LINE PLATFORM (SWP) APPROACH ARRANGEMENT. 6. AT THE SHALLOW WATER PLATFORM LOCATION THE UMBILICAL WILL BE PROTECTED BY CONCRETE MATTRESSES. 7. THE UMBILICAL WILL BE TRENCHED FROM THE SHALLOW WATER PLATFORM TO A WATER DEPTH OF 200m. 8. TOTAL LENGTH OF UMBILICAL DOES NOT INCLUDE J-TUBE LENGTH AND OVERAGE LENGTH ON THE SEABED FOR PULL-IN OR CONTINGENCY. 9. UMBILICAL DATA TO BE CONFIRMED AFTER UMBILICAL SUPPLY AWARDED. CURRENT VALUES ARE INDICATIVE AND WILL BE UPDATED WHEN KNOWN. 10. HEADINGS INDICATED ARE RELATIVE TO STEREO 70 NORTH. 11. TOTAL LENGTH OF DOMINO UMBILICAL FROM SWP TO DODC-1 IS EQUAL TO 26,910m. THIS EXCLUDES 190m J-TUBE LENGTH AND APPROX. 60m OVERAGE LENGTH. 12. SLACK LOOP OF APPROX. 60m FINAL SLACK ADJUSTMENT TO BE DETERMINED DURING DETAIL DESIGN. FINAL ADJUSTMENT OF UMBILICAL OF 3m, IF NEEDED FOR ALIGNMENT. 13. MINIMUM DISTANCE OF 100m BETWEEN THE FLOWLINE AND THE UMBILICAL (120m NOMINAL INCLUDING TOLERANCES) DUE TO DEH REQUIREMENTS. 14. TYPE OF BACKFILL TO BE CONFIRMED DURING DETAILED DESIGN.

SCALA	SCALE BAR
<p>METRI</p> <p>0 100 500 1,000</p> <p>SCALA ORIZONTALA 1:10,000 (FORMAT "A1")</p>	<p>METERS</p> <p>0 100 500 1,000</p> <p>HORIZONTAL SCALE 1:10,000 (AT "A1" SIZE)</p>

PARAMETRI GEODEZIE SI DE PROIECTIE	GEODETIC & PROJECTION PARAMETERS
DATE GEODEZICE : STEREO 70 PROIECTIE : Dublu Stereografica Meridianul central (MC) : 25.0 Latitudine Origine : 46.0 False origine estica : 500,000.0 False origine nordica : 500,000.0 Factor de scara la MC : 0.99975 DATE VERTICALE : MSL (NIVELUL MARI)	GEODETIC 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					
1-D	12.03.21	DATE PENTRU VERIFICARE / ISSUED FOR REVIEW	M. DUMITRU	C. STEFAN	N. EREMA
1-C	21.01.21	DATE PENTRU VERIFICARE / ISSUED FOR REVIEW	M. DUMITRU	C. STEFAN	N. EREMA
1-B	09.06.20	DATE PENTRU VERIFICARE / ISSUED FOR REVIEW	G. MOISE	C. STEFAN	N. EREMA
1-A	03.02.20	DATE PENTRU VERIFICARE / ISSUED FOR REVIEW	G. MOISE	C. STEFAN	N. EREMA
REV	DATE	REZUMAT / SCOPE OF REVISION	PREPARAT / PREPARED	PROIECTAT / DESIGNED	VERIFICAT / APPROVED
VERIFICATOR / CHECKER	1. BUTNARIU				ANRE
PROIECTANT / ENGINEERING CONTRACTOR	ILF CONSULTING ENGINEERS ROMANIA				

PROIECTANT / ENGINEERING CONTRACTOR
ILF CONSULTING ENGINEERS ROMANIA
STR. STREANU, 100000, 100000, 100000
S.C. JEREMY PROMASTER S.R.L.
STR. CUCURDULUI, NR. 14A, FLORESTI.

ILF CONSULTING ENGINEERS

1 13OCT17 RE-ISSUED FOR IFD RO EP SS JG

0 21JUN17 ISSUE FOR IFD RO EP SS JG

REV. REV. DATE REV. DESCRIPTION ORG. REV. APP. PRD. APP.

ExxonMobil

Exploration and Production Romania Limited

SISTEM OMBILICAL DOMINO SWP - DODC-1 DOMINO UMBILICAL SWP - DODC-1

ALIGNMENT SHEET FISA ALINIAMENT

SHEET 3 OF 6 FISA 3 DIN 6

1 : 10000 ROND-EW-YDPAL-22-0005-C DTAC 1-D

SCALA / SCALE OR. PLANSA / DWG. NO. FASE / PHASE REV. / REV. A1+ (1092/594)