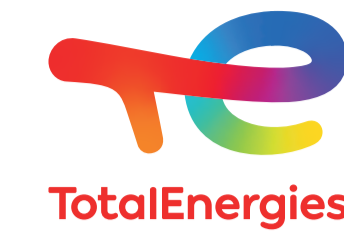


INKCAZELO YEPROJEKTHI



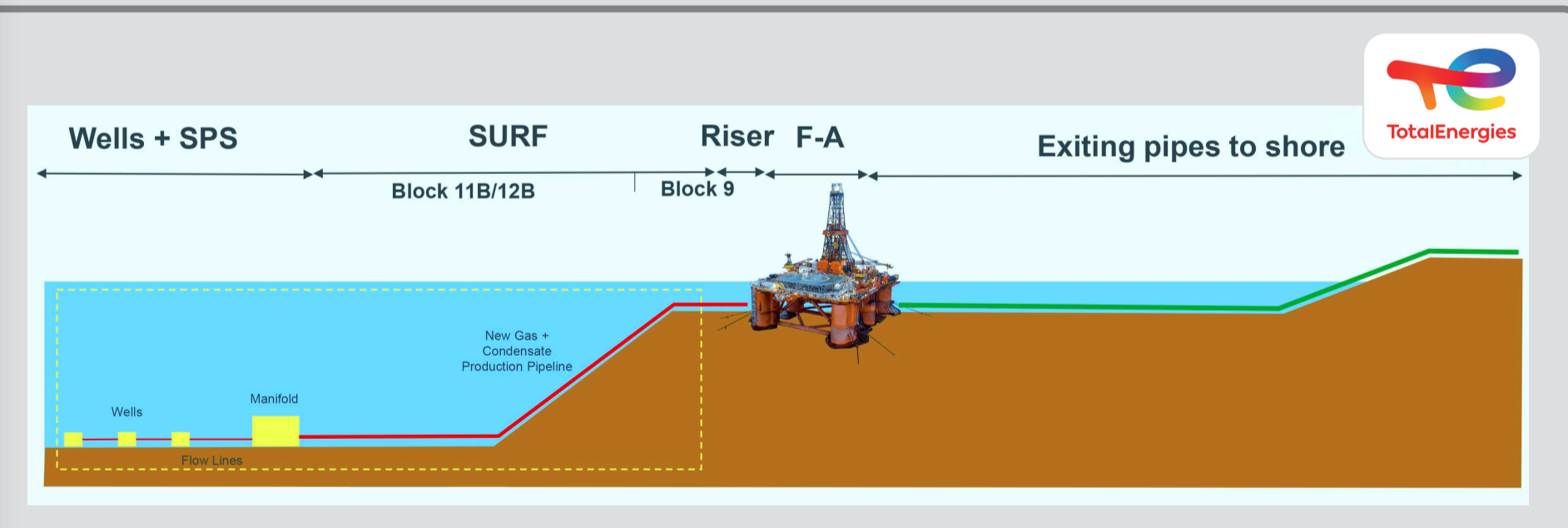
ISISHWANKATHELO SEPROJEKTHI

I-TEEPSA iceba ukuphuhlisa iBloko ka-11B/12B ngokuxhomekeke ekunikezelweni kweLungelo leMveliso (PR) kunye noGunyaziso lokusiNgqongileyo (EA) kwaye ukuba izivumelwano zorhwebo zokuthengiswa kwegesi kwimarike yasekhaya zinokufezekiswa.

Uphuhliso lweBloko 11B/12B luya kubandakanya le misebenzi ingundoqo ilandelayo kwinxalenye ekumzantsi-ntshona weBloko:

- Ukugrunjwa kwamaqula ophuhliso amahlanu, kunye nokukhetha kokomba iqula lesithandathu, kuMmandla **woPhuhliso lweProjekthi**.
- Ukufakwa kwenkqubo yokuelisa i-subsea ukuvelisa igesi kunye ne-condensates ehambelanayo (**Umfanekiso 3**).
- Ukwakhiwa kombhobho ongaphantsi kolwandle ukuze uthwale irhasi kunye nokudibanisa kwiPlatform ye-PetroSA FA ekhoyo (**Umfanekiso 2**) apho iya kucutshungulwa kwaye ithunyelwe elunxwemeni kusetyenziswa igesi ekhoyo esetyenziswa yiPetroSA kunye nemibhobho ye-condensate (**Umfanekiso 1**).

Naluphi na ulwakhiwo, uhlehlengiso okanye uphuculo kwi-FA Platform, irhasi ekhoyo esetyenziswa yiPetroSA kunye nemibhobho yocondensate ukuya elunxwemeni, okanye nakwesiphi na isibonelelo esiselunxwemeni, ukuba ifunwa ngumthathi werhasi okanye i-condensates, ayiqukwanga kumda wale ESIA kwaye iya kufakwa kwisicelo esahlukileyo se-EA.

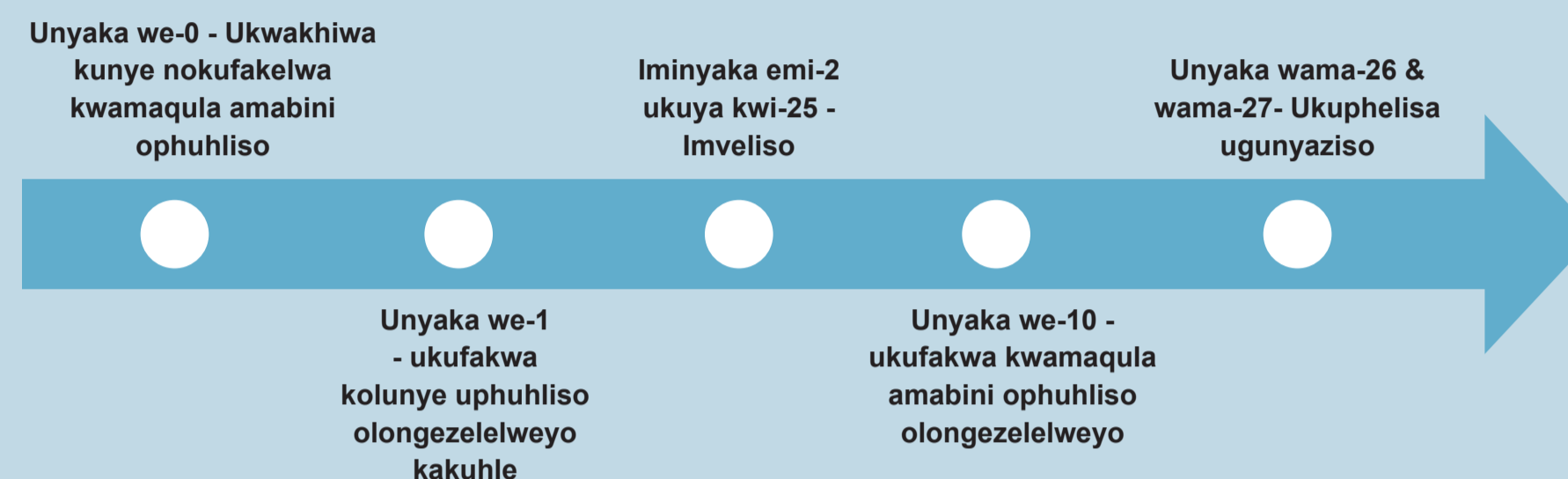


UMFANEKISO 1: Umfanekiso onqamleziweyo wendawo apho iProjekthi izawukwenziwa khona

- Kusekho imfuneko yokombiwa amaqula ophononongo ngakumbi kunye novavanyo kwindawo yesicelo, ukuqonda ngakumbi ubungakanani bemithombo ye-hydrocarbon kwiBloko 11B/12B.
- Oku kuya kubandakanya ukugrunjwa ukuya kutsho kumaqula amane ophononongo kunye novavanyo, kubandakanywa uvavanyo lokuqukuqela okunokwenzeka kunye neprofayili yenyikima ethe nkqo kwindawo esempuma nakumntla-mpuma weBloko, ekubhekiselwa kuyo njengeNdawo ePhambili ePhambili
- Kukwakho imfuneko yokwenziwa kovavanyo olongezelelweyo, kuqukwa i-bathymetry ne-sonar surveys, iisampulu ephantsi kolwandle, kunye nophando lwemetocean kwiBloko 11B/12B iyonke.

- Ngaphaya koko, inkxaso elunxwemeni iya kuba ngeenqanawa ezixhasayo ezisuka eMossel Bay, eGqeberha kunye/okanye eKapa kwaye iinqwelo-ntaka ziya kusebenza ukusuka eGeorge.

IXESHA LEPROJEKTHI



- Ixesha elibekiweyo lemisebenzi **yokuhlola** ayaziwa ngeli nqanaba kodwa ubude bemisebenzi yokuhlola kulindeleke ukuba ibe yi-3 kwiinyanga ze-4 ngomthombo.
- Amaxesha amisiweyo ovavanyo **lwaselwandle** nawo awakaziwa, kodwa, ngokuxhomekeke kuphando, anokuba phakathi kweentsuku ezili-15 nezingama-30 ngovavanyo ngalunye (iisampulu ze-sonar kunye nomgangatho wolwandle), apho uhlobo lwe-metocean buoy luthatha ukuya kutsho kunyaka.



UMZO 2: I-FA PLATFORM



UMZO 3: IZIBONELELO ZOKUSEBENZA NGASEA SUBSEA

INDAWO YEQUA

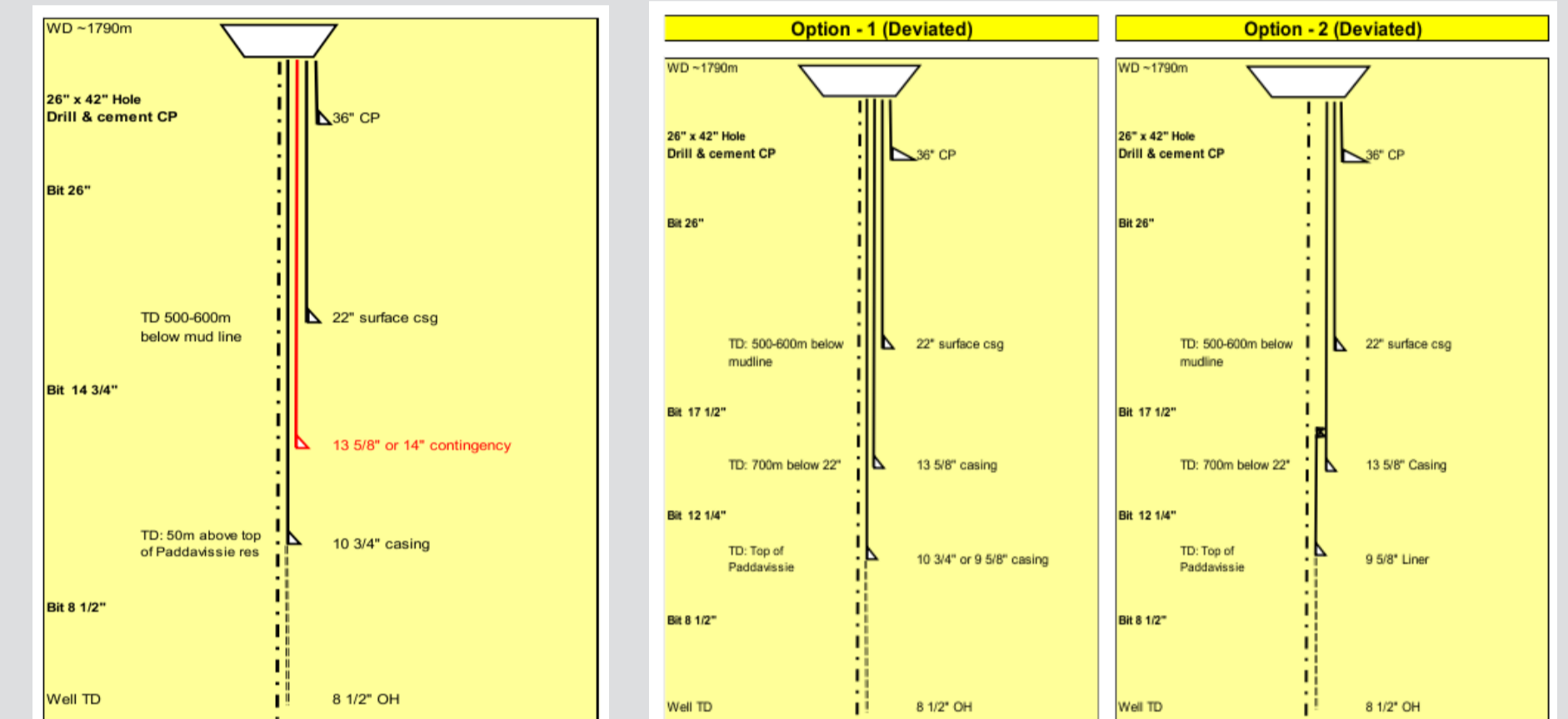
Ukukhethwa kweendawo ezithile zamaqula kuya kusekelwa kwimiba emininzi, kubandakanywa uhlalutyo oluneenkukacha lwe-datha yovavanyo lwaphambi kokugrunjwa, nokuqinisekiswa sisiThuthi esiLawulayo esiSebenzayo (Remote Operating Vehicle) esivavanya umgangatho wolwandle ngemiqobo okanye ubukho bazo naziphi na iimpawu ezinovakalelo lwendalo.



UMZO 4: IYUNITHI YOKUMBIZA ENGAPHAMBILI ENGAHLAWULIWEYO

IMVELISO EYAYIQALAYO YOYILO

Ingcamango yoyilo lwangoku icwangcise ukuba ibe nokudibanisa amaqula amileyo (**Umfanekiso 7**) kunye nemigodi ephambukayo (**umzobo 8**) odibeneyo kunye ne-manifold kwindawo ephakathi.



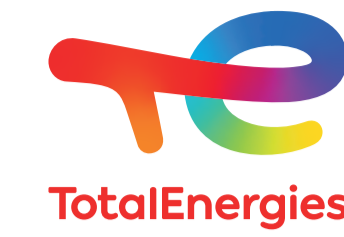
UMFANEKISO 7: UMQONDISO OMQONDISO

UMZO 8: AMAKHETHO OKUTHEMBEKILEYO

EZINYE IINDLELA ZOKWENZA IPROJEKTHI

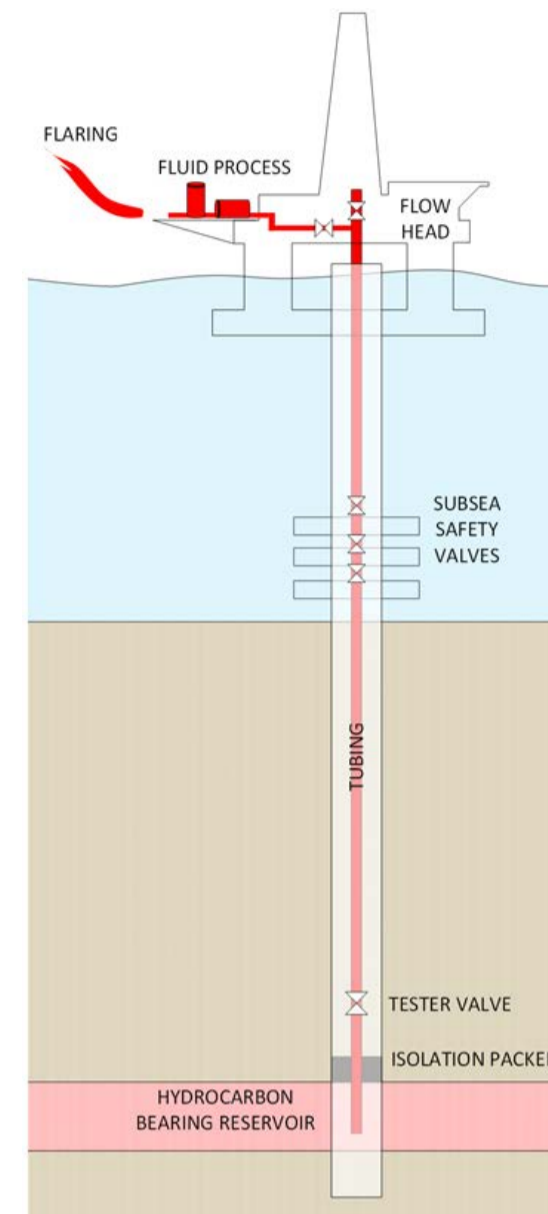
- Iipaseji ezimbini zichongiwe kwaye zavavanyelwa ukulungelelaniswa kombhobho wemveliso:
 - Ityala elisisiseko eliyindlela ethe ngqo emalunga ne-109 km ukusuka kwindawo yomthombo eqikelelwayo ukuya kwiQonga le-FA.
 - Enye imeko emalunga ne-115 km, ihamba kancinci kumntla-mpuma ukusuka kwisiseko, kunye nokugoba ukufikelela kwi-FA Platform.
- Ipaseji yecala lesiseko yeyona nto ikhethwayo, njengoko inqanda ukugqithelana kwi-Kingklip Corals ngokwe-Ecologically and Biologically Significant Area. ilandela indawo esele iphazanyiswe yimisebenzi yangaphambili ye-oyile nerhasi kwaye inomzila omncinci, ngokwenjenjalo inciphisa indawo ekhoyo yophuhliso lombhobho ebhedini.
- Ulungelelaniso lombhobho lokugqibela luya kuqinisekiswa ngokuxhomekeke kwiziphumo zezithuba zokugqibela zequla lemveliso kunye nophando olongezelelweyo lwebhathymetry, geotechnical kunye ne-benthic.

INKCAZELO YEPROJEKTHI

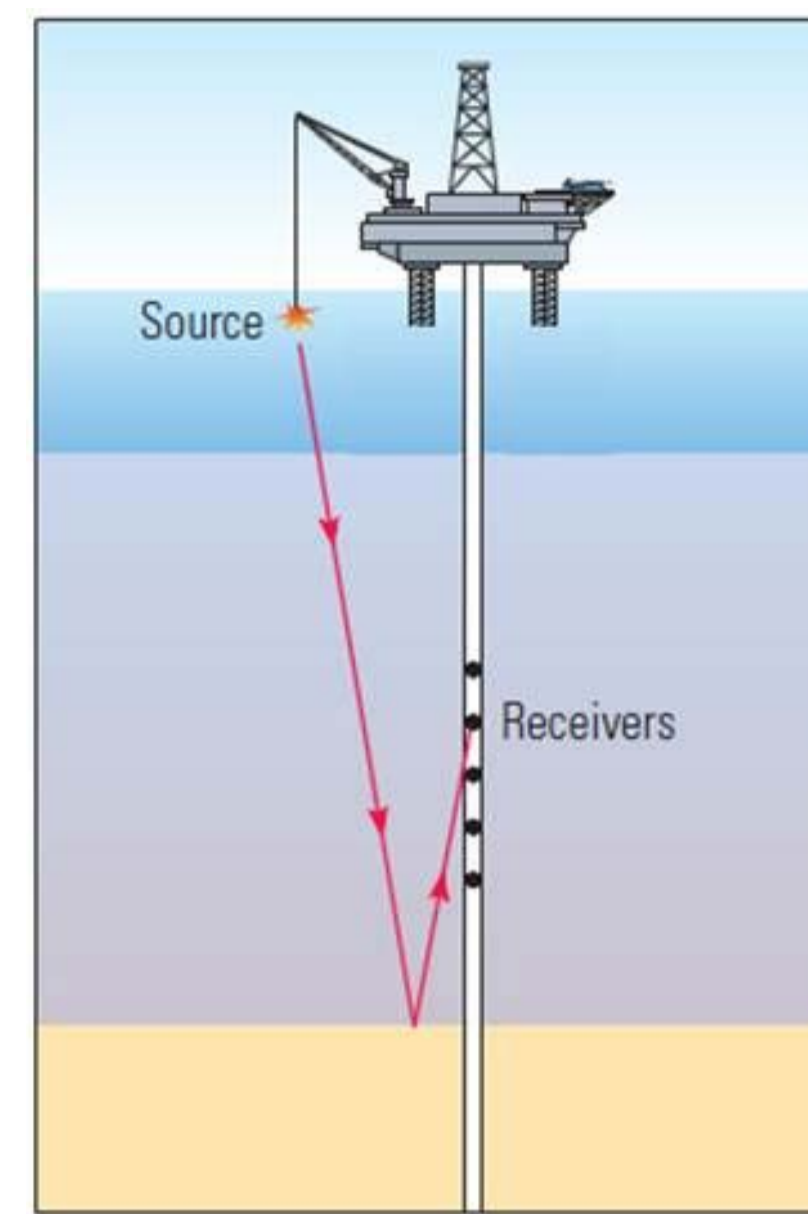


UKUPHONONONGA KAKUHLE UYILO

- Icandelo loku-1: icandelo lama-42" liya kombiwa ngaphandle kokunyuka ngaManzi oLwandle kunye ne-Hi-vis yokuTshayela kunye nodaka olusekelwe kuManzi (Hi-vis Sweep & Water Based Mud) (WBM=PAD mud)
- Icandelo le-2: 26" icandelo eliza kugrunjwa ngaphandle kokunyuka kusetyenziswa Amanzi oLwandle kunye ne-Hi-vis Sweep & WBM (PAD mud)
- Icandelolesithathu: icandelole-17 1/2" liyokombiwangesikhuphukeli kusetyenziswa udaka lwe-HydroGuard High Performance Water Base
- Icandelolesine: I-12 1/4" iyokombiwangesikhuphukelikusetyenziswa udaka lwe-HydroGuard High Performance Water Base
- Icandelo lesihlanu: 8 1/2" liza kugrunjwa ngesikhuphukeli kusetyenziswa i-KCl/Glycol/Polymer Water Base Mud



UMZO 5 : ISIXHOBO ESISHELEKILEYO SOVAVANYO LWEQULA



UMZO 6 : ISIXHOBO ESISHELEKILEYO SOKUVAVANYA OKUSEMNENE

UVAVANYO LWEQULA

- Amandla oqoqosho lwamaqula okuphonononga aya kuvavanywa ngaphambi kokuba umthombo ushiywe okanye unqunyanyiswe (Umfanekiso 5).
- Uvavanyo lunokuthatha iintsuku ezintathu ukuya kwezine zokuqukuqela ukugqiba kwaye kubandakanya ukutshisa ii-hydrocarbons kwindawo yomthombo (ekwabizwa ngokuba kukugqabhuka okungeko kwesiqhelo). Kuqikelelwa ukuba isantya sokuvutha singama-900 000 m³ / ngosuku ngovavanyo ngalunye lintsuku ezi-3-4 zokuhamba.
- Idangatye elisebenza ngamandla kakhulu lisetyenziselwa ukonyusa ukutsha kwehydrocarbons kuluhlu olubanzi lweemeko zemozulu, ukunciphisa ukukhutshwa komoya kunye namathontsi angatshiyo elwandle.
- Ukuba amanzi aveliswayo avelangexesha lovavanyo lokuqukuqela kwamanzi (ngokwesiqhelo ngokwemiyinge emincinci), kuya kunyangwa ebhodini ukwahlulala ii-hydrocarbons ukuze zihambelane nenkcazo ye-TotalEnergies, phambi kokukhutshelwa elwandle kakhulu okanye ngenqanawa ukuya elunxwemeni.

UKWENZA I-PROFAYILI YOKUNIKEZELWA KWESISIMO

- I-Vertical seismic profiling (VSP) sisixhobo sovavanyo esisetyenziswa xa iqula lifikelela kubunzulu ekujoliswe kulo ukuze kuveliswe umfanekiso wesimo sezulu esinesisombululo esiphezulu seoloji kwindawo ekufutshane yequla. Imifanekiso ye-VSP isetyenziselwa ukulungelelaniswa nemifanekiso yenyikima yomphezulu kunye nokucwangciswa kwangaphambili kwe-bit drill ngexesha lokomba. I-VSP isebenzisa uluhlu oluncinci lwemipu yomoya, esetyenziswa kwiyunithi yokomba.
- Kulindlekele ukuba kusetyenziswe iDual Delta Soder G-Gun (okanye elingana nayo) kwiProjekthi,.
- I-airgun array ifakwe kwi-avareji ye-10 m ngaphantsi komgangatho wolwandle kwaye inoxinzelelo lompu we-2 000 nge-intshi yesikwere (psi)

IINDAWO ZOKHUSELEKO LWEMALI

- Imimandla yokhuseleko ibhekiselele kwiindawo zaselwandle ezisisigxina okanye ezimiselwe okwethutyana kufutshane nezakhiwo ezizinzileyo, ezidadayo okanye ezingaphantsi kolwandle apho izithintelo ezithile okanye iingcebiso ezikhethekileyo zisebenza kubasebenzisi baselwandle.
- A Indawo yokhuseleko ye-500 m iya kusekwa malunga neyunithi yokomba kunye neenqanawa zokwakha.
- Emva kofakelo, indawo yesiseko solwandle kunye nombhobo uya kuvavanywa kwaye imakishwe kwi-bathymetric kunye neetshathi zokuhamba njengengozi. Amacandelo orhwebo ngenqanawa, amashishini kunye nabalobi abakhasayo aza kwaziswa ngobukho beziseko ezingundoqo.
- Ukusasazwa kwee-metoccean buoys kuya kufuna indawo yokhuseleko lwexeshana ephakathi kwe-500 m kunye ne-2 km radius kumphezulu wolwandle.
- Imfuneko yendawo yokhuseleko ejikeleze imingxuma eplagiweyo nashiyweyo iya kugqitywa yi-SAMSA, ngokusekelwe kuvavanyo lomngcipheko.

UKUKHUTSHWA KWAMANDLA

- Ukukhutshwa kuya kwenzeka kwimisebenzi eyahlukeneyo yeProjekthi kwaye kuya kubandakanya ukugrumba ukusika, udaka, isamente, inkunkuma yezococeko kunye nezasekhaya, imijelo yokuhambisa amanzi edesikeni kunye nezinye izinto ezahlukeneyo ezilahlwayo.
- Amanzi amdaka aya kukhutshwa ngokulandela unyango olufanelekileyo ukuhlangabezana nemigangatho ye-MARPOL 73/78.

XA IIMFUNO ZOKUPHUMA

Isigaba	Isitya
Ukugrumba	Isikhephe sokudonsa linqanawa zokubonelela
Uvavanyo	linqanawa ezikhethekileyo
Ukwakhiwa	Inqanawa ye-S-Lay Inqanawa ye-J-Lay Inqanawa yokunyusa enzima Inqanawa yophando ye-ROV Inqanawa yokuthwala imibhobho Umkhumbi wenkxaso wokuntywila linqanawa zeenkonziso ezininzi Inqanawa yokubonelela Isitya sokufakela i-Umbilical Inqanawa yokulinda yeprojekthi
Ukusebenza	Inqanawa yenkxaso
Ukuphelisa	Isikhephe sokudonsa
ugunyaziso	linqanawa zokubonelela Inqanawa yokunyusa enzima
Ukugrumba	Isikhephe sokudonsa linqanawa zokubonelela

ULUHLU: IZINTO ZOKUVALA KUNYE NEZENZO

Izixhobo	Indawo	Isenzo sokuLahla
Imithombo yemveliso	Amanzi anzulu	Irhoxisiwe kwaye iplage kwindawo
Iintlobo ezininzi zemveliso	Amanzi anzulu	Ekhohlo phezu kolwandle kulandela uhlolo olubonakalayo
I-Flowline end yokuphelisa iiyunithi	Amanzi anzulu	Ekhohlo phezu kolwandle kulandela uhlolo olubonakalayo
Iiyunithi zokuhanjiswa kwe-Subsea Umbhobho wemveliso (umbhobho) Umbilical	Amanzi anzulu	Ekhohlo phezu kolwandle
Umbhobho wemveliso (umbhobho) Umbilical	Amanzi anzulu / Amanzi angekho nzulu	Ihagu ukususa ungcoliseko olunokubakho emva koko iyeke phantsi kolwandle
I-Subsea pig launcher	Amanzi angekho nzulu	Iqhawulwe, igungxulwe yaza yalaliswa phantsi kolwandle ukwenzela amanzi anzulu-akhutshelwe amanzi angekho nzulu
I-Subsea pig launcher	Amanzi angekho nzulu	Ifunyenwe
Isiphakamisi semveliso	Amanzi angekho nzulu / FA-Platform	Ifunyenwe (iQonga le-FA alibandakanywanga kwiprojekthi yeBloko 11B/12B)