

exploration & production



PERFURASAUN ESPLORASAUN TIMOR-LESTE

Konsulta Maksoin-lisuk (stakeholder)

27 Outubru 2010

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introduction/introdusaun

- Exploration drilling in permit area S06-03, Timor Leste Exclusive Area
 - At least 1 well, and up to 3 more
 - Drilling ship: *Saipem 10000*
 - Drilling starts after Cova-1
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- Perfurasaun esplorasau iha área lisensa S06-03, Área Ekluzivu Timor-Leste
- Mais ou menus posu 1 no to posu 3 tan
- Ró perfurasaun: *Saipem 10000*
- Perfurasaun hahu depois Cova-1



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Production Sharing Contract

- Between Timor Leste Government and Eni
 - Signed 3 November 2006, under the **Petroleum Act**
 - Commitment to drill at least two wells in the S06-03 permit area, during “second period” (2010-2011)
 - Expires 2013
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Kontratu Fahe Produsaun

- Entre Governu Timor-Leste no Eni
- Asinadu 3 Novembru 2006, iha **Ata Petróleo** nia okos
- Kompromisu atu fura pelumentus posu rua iha área lisensa S06-03, durante “períodu daruak” (2010-2011)
- Hotu iha 2013



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introduction/introdusaun

Environmental assessment:

- 24 August 2010—Environmental screening workshop, Draft Terms of Reference submitted
 - 24 September 2010—DNMA accepts Terms of Reference
 - 5 October 2010—Environmental Impact Statement (EIS) and Environmental Management Plan and Monitoring Program (EMP) submitted to DNMA and stakeholders.
 - 27 October 2010—Stakeholder review meeting
-

Avaliasaun ambientál

- 24 Agustu 2010—Kolokiu kona ba Meiu-Ambiente nian, Draft hosi Termu da Referensia hatama ona
- 24 Setembru 2010—DNMA simu Termu da Referenrensia
- 5 Outubru 2010—EIS no EMP hatama ba DNMA no Ansionista sira
- 27 Outubru 2010—Sorumutu revisaun ansionista sira



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Purpose of today's meeting is to present:

- An update on the drilling program
 - The environmental impact assessment completed in the EIS
 - **Eni's management controls for environmental risks**
 - An opportunity for stakeholders to ask questions
-

Objetivu hosi soru-mutu ohin-loron nian mak atu apresenta:

- Atualizaun ida hosi programa perfurasaun nian
- **Avaliasaun impaktu ambientál ne'e kompleta tiha iha EIS**
- Eni nia kontrolu jestaun ba risku ambientál
- Oportunidade ba maksoin-lisuk (stakeholder) sira atu husu pergunta



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Agenda:

1. Description of the drilling program
 2. Environmental studies completed by Eni
 3. Environmental risks and management
 4. Finalising the EIS
 5. Questions
-

Ajenda

1. Deskrisaun programa perfurasaun nian
2. Estudu ambientál ne'ebé completa hosi Eni
3. Risku no jestaun ambientál
4. Finalizasaun EIS
5. Pergunta sira



PART ONE:

- Description of the drilling program
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PARTE IDA:

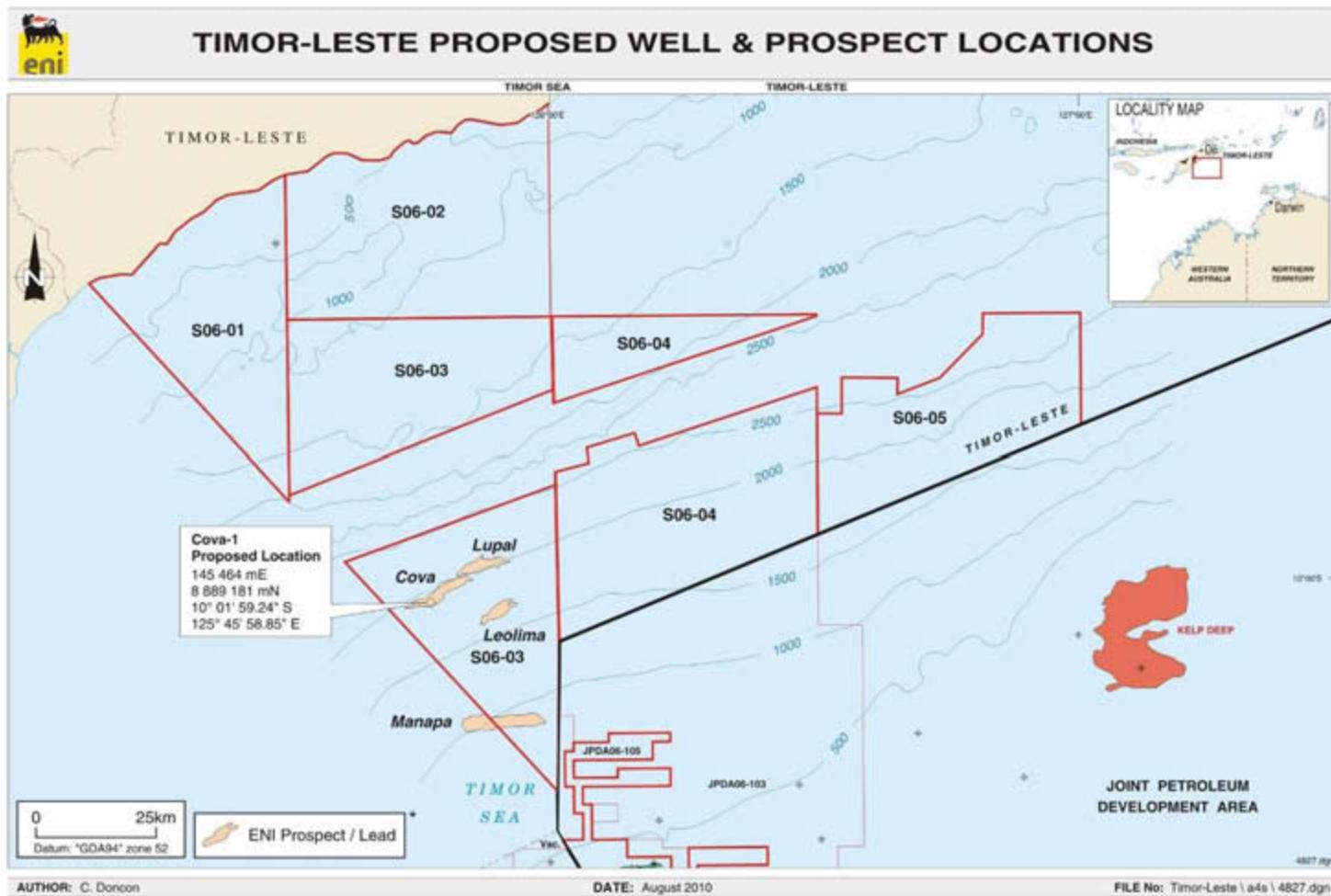
- Deskrisaun programa perfurasaun nian



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- “Prospects” for oil and gas identified during seismic surveys in 2007-08
 - To learn more about the prospect, the next step is to drill an exploration well
 - Drilling will provide information on the reservoir geology, and whether there are commercial quantities of oil and gas.
-
- “Prospetu” potensiál ba petróleu no gás identifika durante levantamentu sízmiku iha 2007-08
 - Atu aprende liután kona-ba prospetu, pasu tuirmai mak atu fura posu esplorasau ida
 - Perfurasau sei fornese informasaun kona-ba jeolojia rezervatóriu, no se iha kuantidade petróleu no gás komersiál



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- Duration: 30–45 days per well
 - Water depth: 1000–2000 m
 - Depth of the wells: approx. 4000 m
 - Vertical wells
-

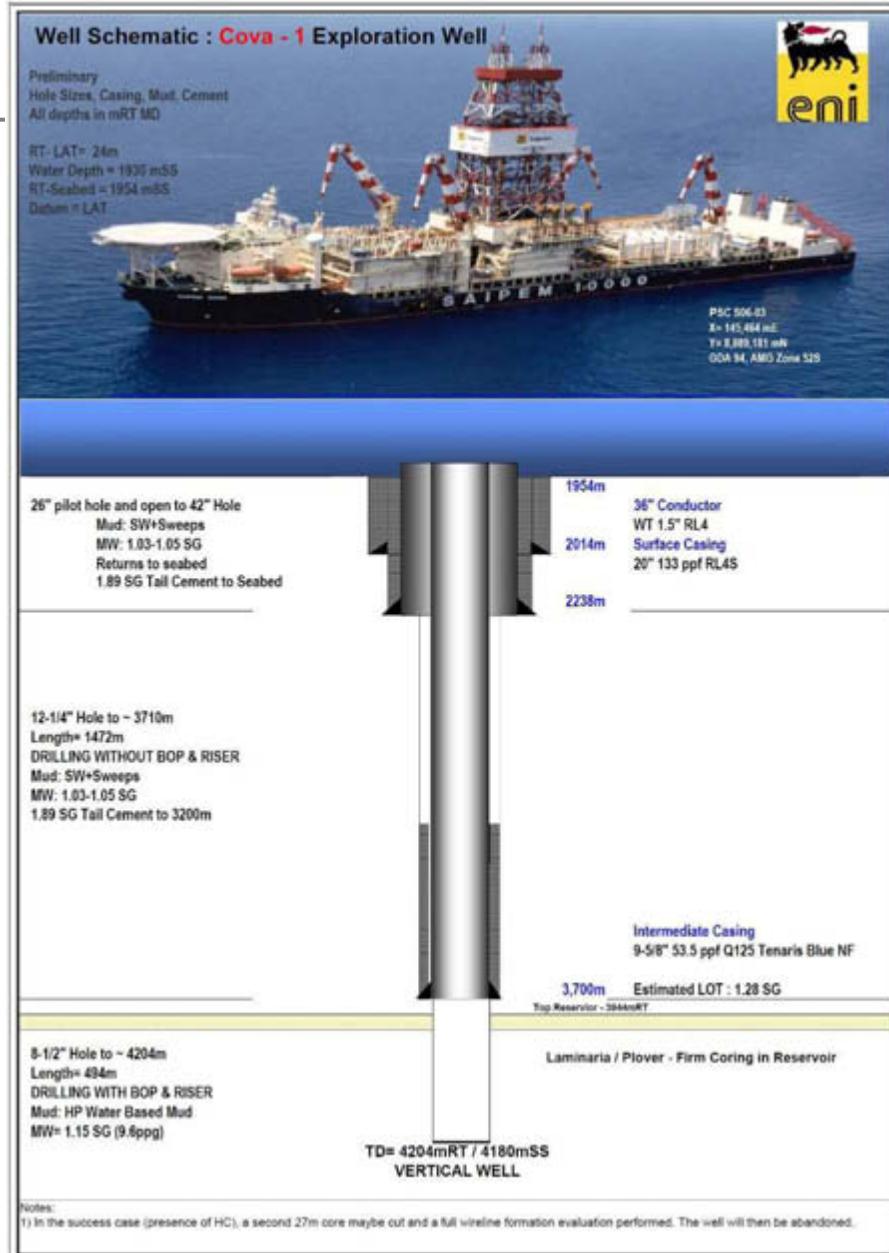
- Durasaun kampaña perfurasau: Ioron 30–45
- Bee nia lale'an: 1000–2000 m
- Posu nia lale'an: besik 4000 m
- Posu vertikál



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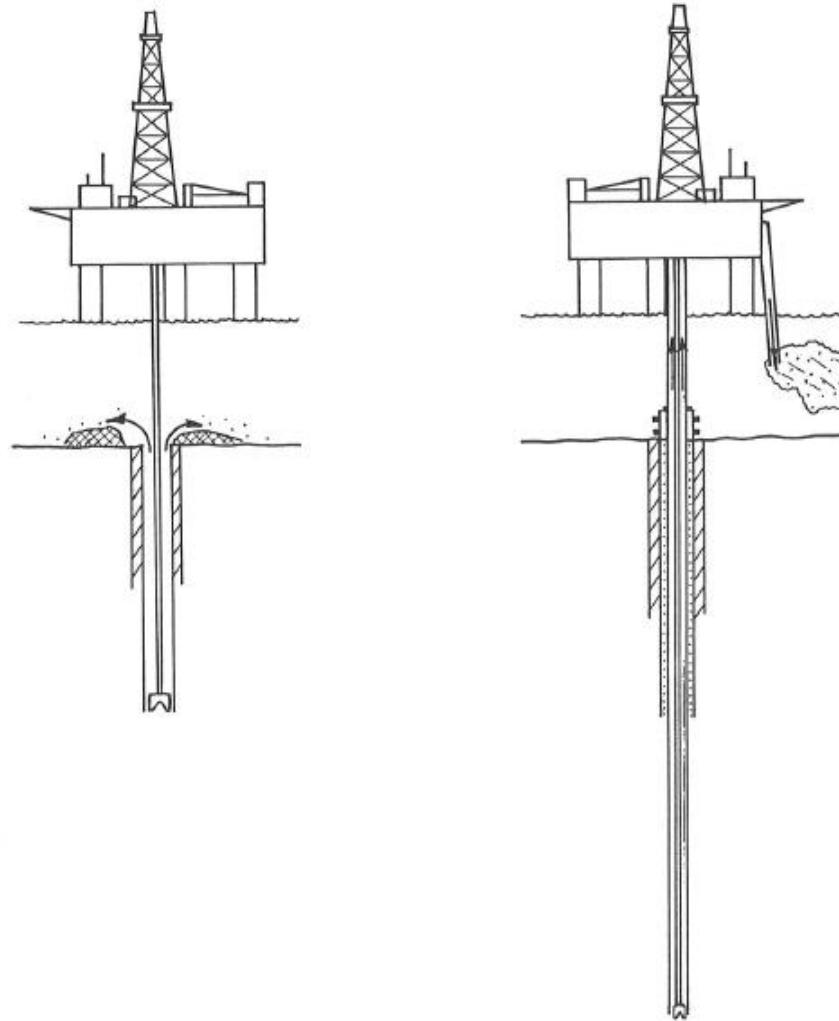
- Top part of well hole drilled without riser (pipe)
 - Riser added after drilling 1700 m, drill cuttings brought to surface on *Saipem 10000* for treatment
 - Drilling mud removed from cuttings in processing equipment
 - Clean cuttings discharged from *Saipem 10000* near the ocean surface.
-
- Kuak posu parte leten nian ne'e fura lahó kanu
 - Kanu ne'e sei aumenta liutiha perfurasau 1700, perfurasau nia eskavasaun ne'e sei lori ba *Saipem 10000* nia leten hodi halo tratamentu
 - Tahu perfurasau ne'e hasai hosi eskavasaun ba iha ekipamentu prosesamentu nian
 - Eskavasaun ne'ebé moos ne'e hasai hosi *Saipem 10000* besik ba superfísie tasi nian



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Exploration well

- If oil is found, some well testing may be required
 - Well hole closed by filling with cement at end of drilling
 - If oil or gas is found, production drilling would be done at a later time, either at the same location or a different location.
-

Posu esplorasaun

- Teste balun ba posu sei halo Se hetan Mina
- **Kuak posu nian ne'e taka hodi enxe ho simente iha fín perfurasau nian**
- Se hetan petróleu no gás karik, produsaun perfurasau mak sei halo iha tempu tuirmai, tantu iha fatin hanesan ka iha fatin diferente



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■ *Saipem 10000:*

- Designed to drill in very deep water
- Built in 2000
- 220 m long, 40 m wide, 20 m tall
- Accommodation for 142 people
- Two drilling rigs
- Uses propellers (thrusters) for stability

■ Saipem 10000:

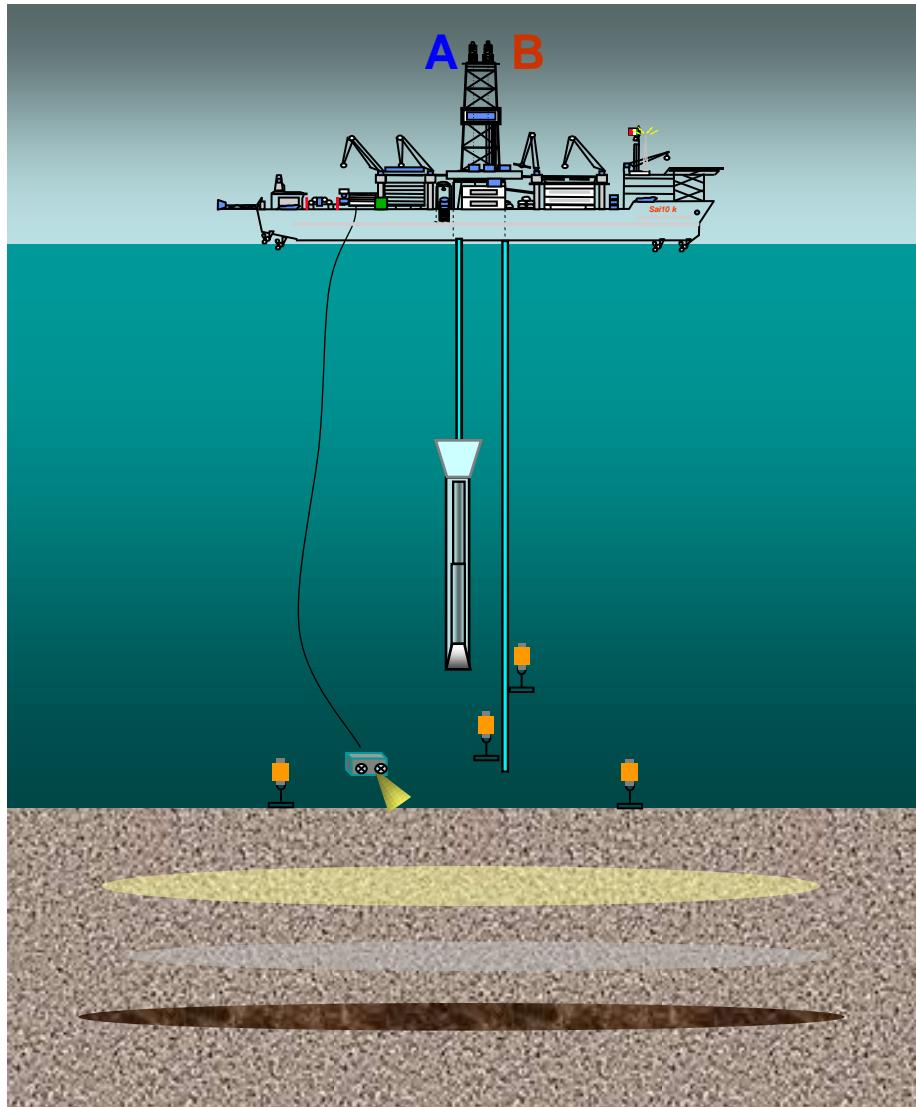
- Dezena atu fura iha bee ne'ebé kle'an tebes
- Harii iha 2000
- Ninja naruk 220m, luan 40m, aas 20m
- Alojamentu ba ema 142
- Torre-perfurasau iha rua
- Uza propulsór sira (thrusters) ba estabilidade nian



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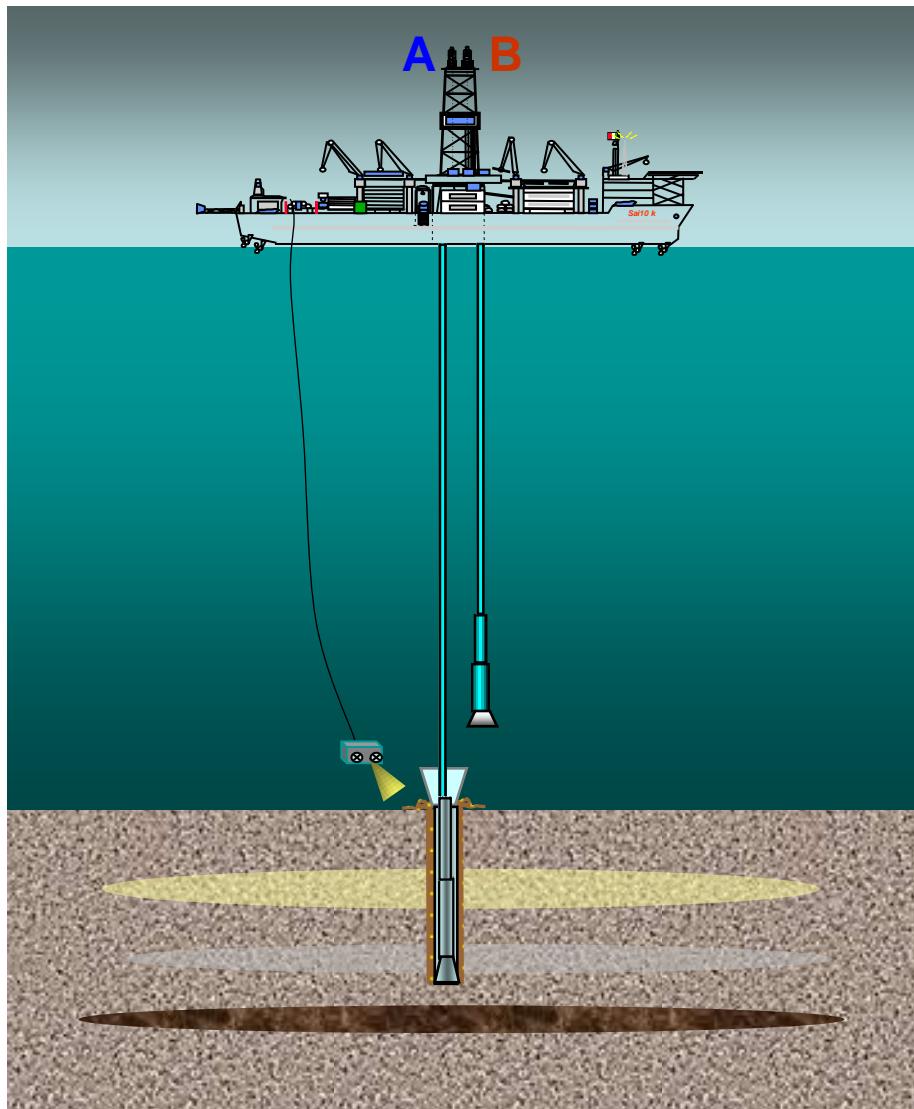
Beginning of drilling

- Rig A: Starts to drill hole
- Rig B: Places beacons on seabed, to help keep vessel in place
- Remote operated vehicle (ROV) with video camera

Hahú perfurasau

- Torre-perfurasau A: hahú fura kuak
- Torre-perfurasau B: hatuur Ahi-sinál iha tasi-okos, hodi ajuda hatudu ró iha fatin
- Veíkulu ne'ebé opera hosi dook de'it ho kámara-vídeo

drilling/perfurasau



Top of well hole

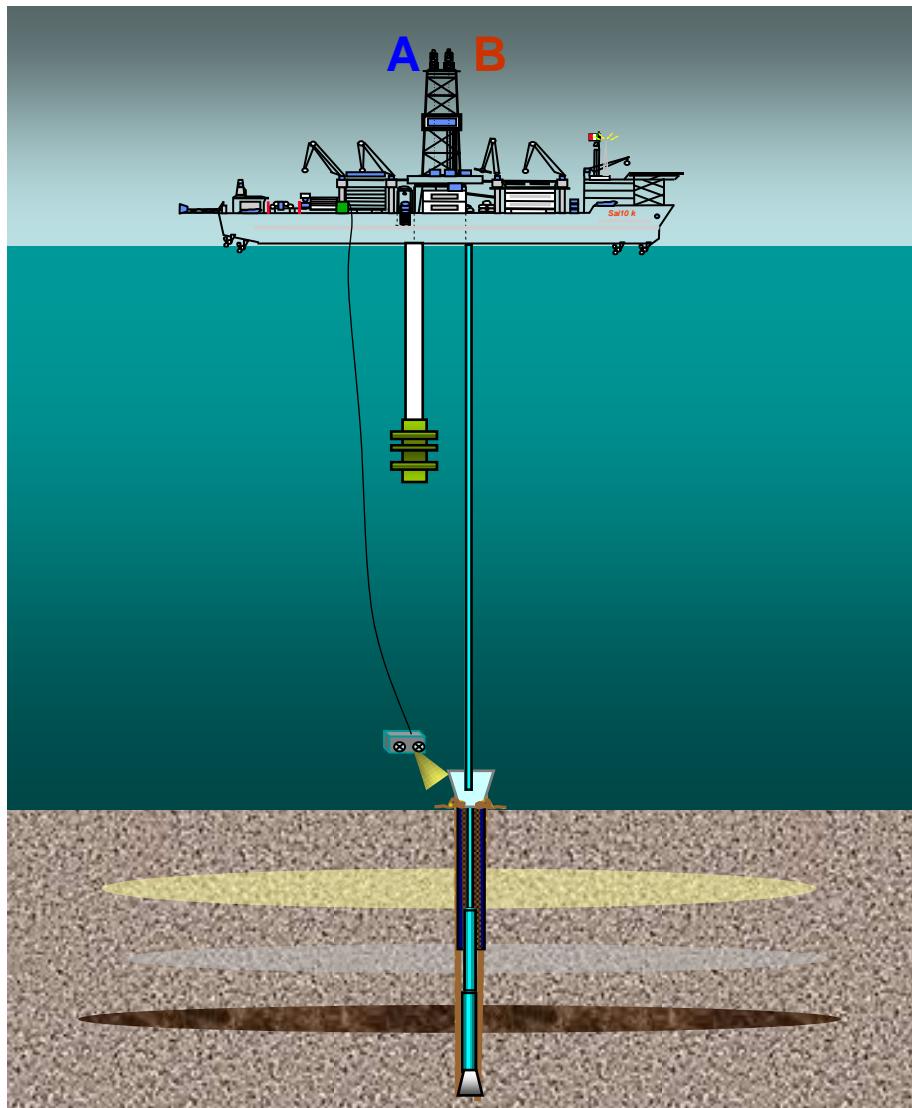
- Rig A: Placing cement in sides of well hole
- Rig B: Bringing down bottom-hole-assembly equipment

Kuak posu nia leten

- Torre-perfurasau: Tau simente iha kuak posu nia sorin
- Torre-perfurasau B: hatún ba okos ekipamentu montajen kuak nian



drilling/perfurasau



Top of well hole

- Rig A: Bringing down blowout-preventer (BOP) equipment
- Rig B: Continuing to drill hole

Kuak posu nia leten

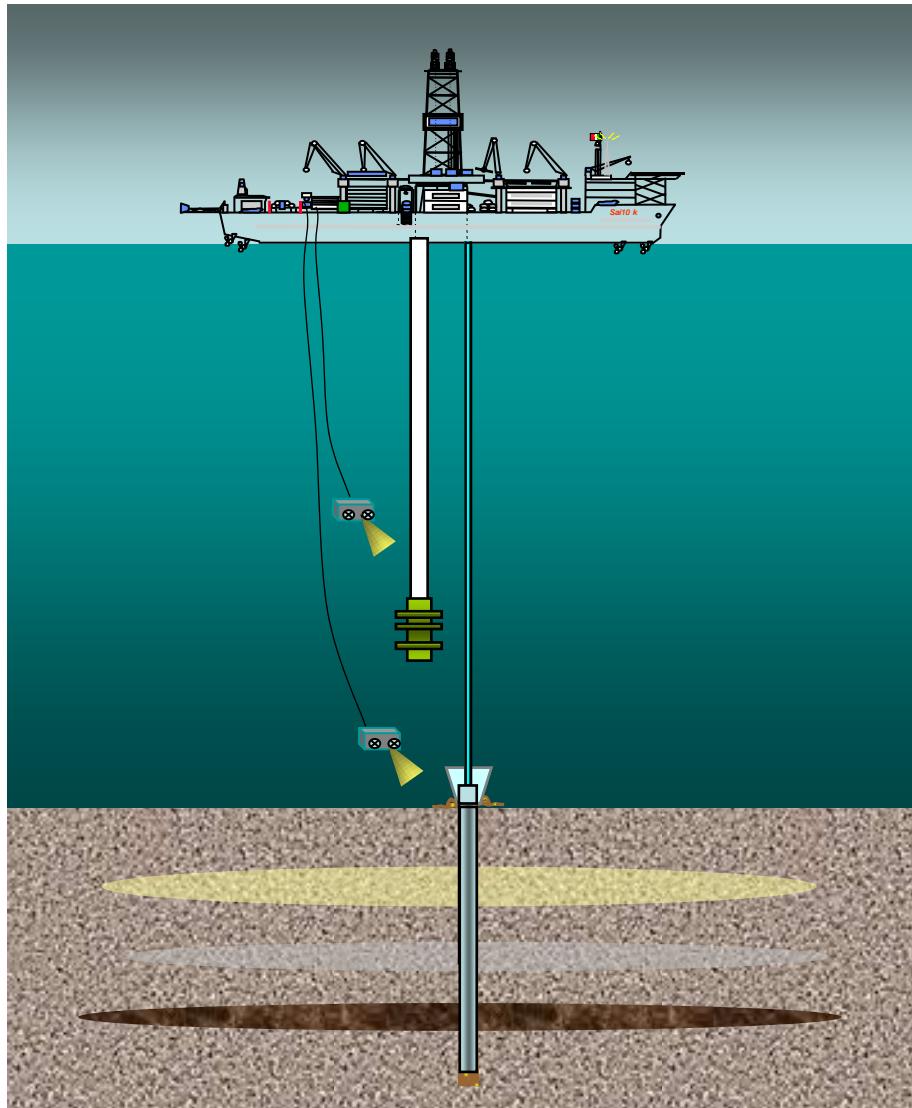
- Torre-perfurasau A: hatún ekipamentu ne'ebé prevene rebenta (BOP)
- Torre-perfurasau B: Kontinua fura kuak



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Top of well hole

- Rig A: Bringing down blowout-preventer (BOP) equipment
- Rig B: Placing cement in sides of well hole

Kuak posu nia leten

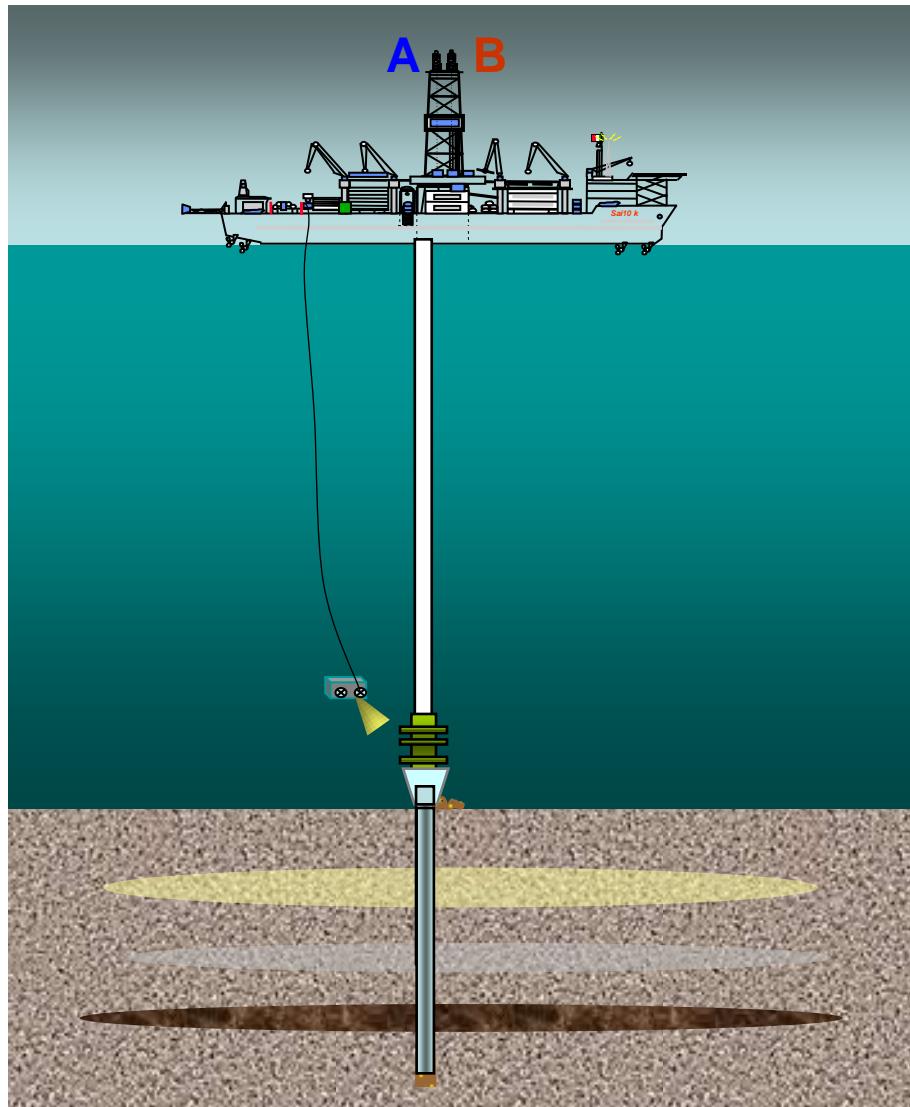
- Torre-perfurasau A: hatún ekipamentu ne'ebé prevene rebenta (BOP)
- Torre-perfurasau B: Tau simente iha kuak posu nia sorin



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Preparing to drill deeper

- Rig A: Attaches BOP to well head
- Rig B: Not required after the BOP is in place. Can be used if Rig A is damaged.

Prepara atu fura kle'an liután

- Torre-perfurasau A: Tau BOP ba posu nia ulun
- Torre-perfurasau B: La presiza liutiha BOP ne'e iha fatin. Bele uza karik Torre-perfurasau A ne'e estraga



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Konvés kanu prinsipál
FWD nian



Konvés kanu sekundáriu
parte kotuk nian



Konvés kanu
parte kotuk
nian



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Dual Derrick Front View

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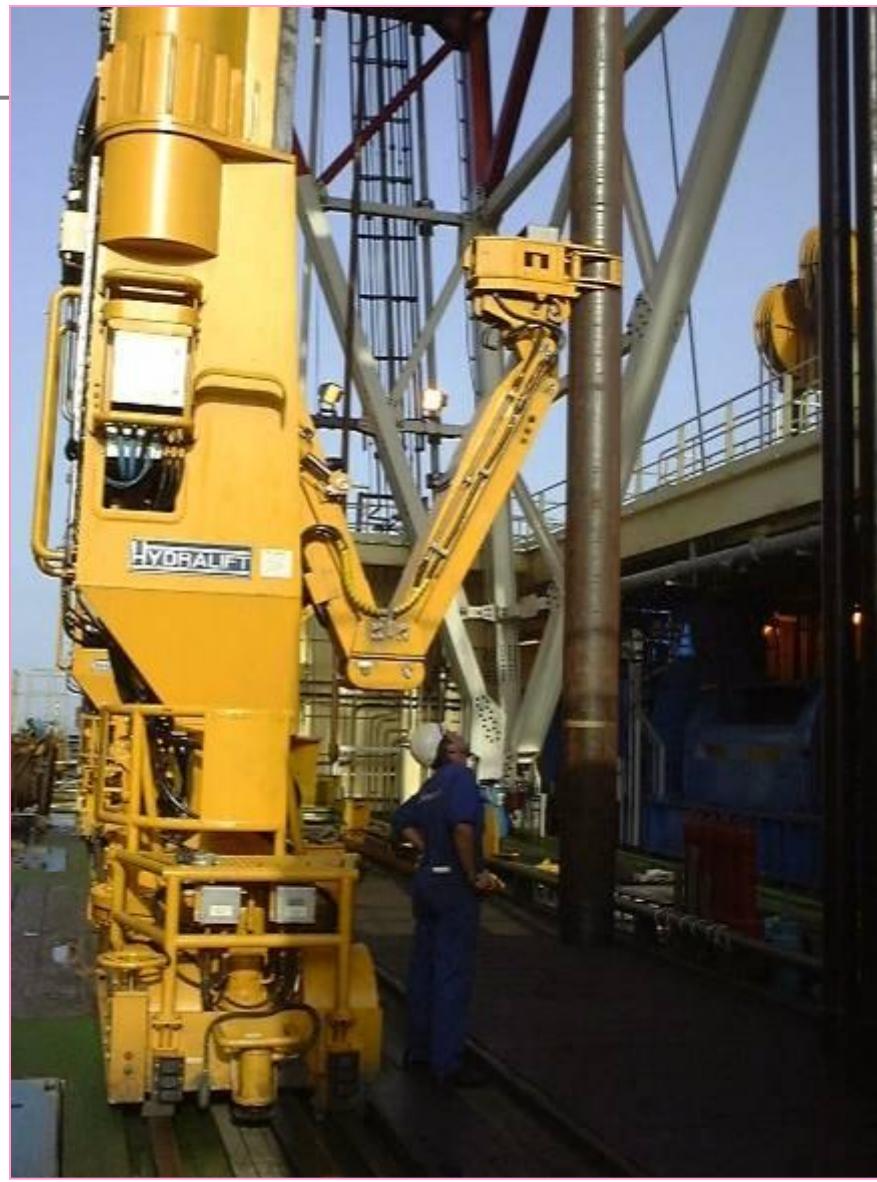
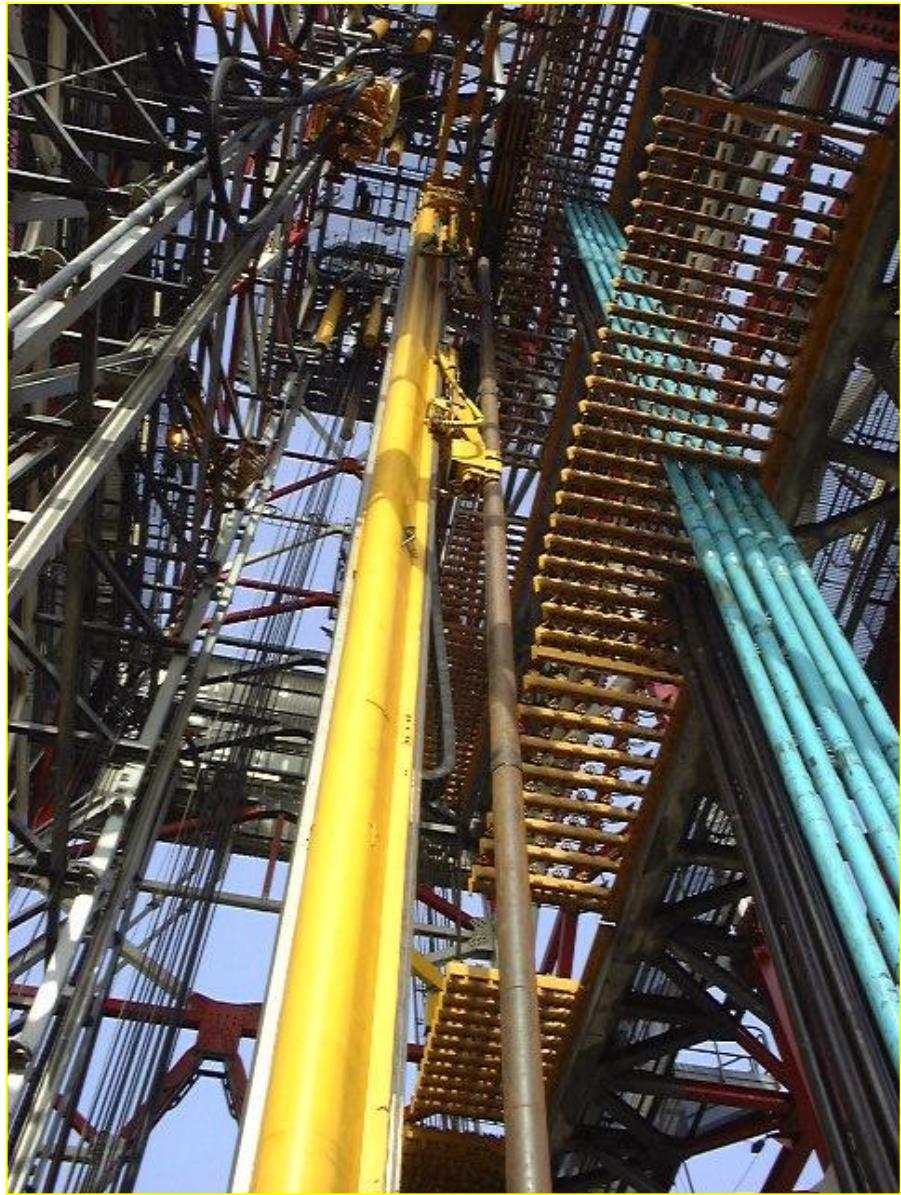


Racks with piping / Prateleira ho
kanalizasaun

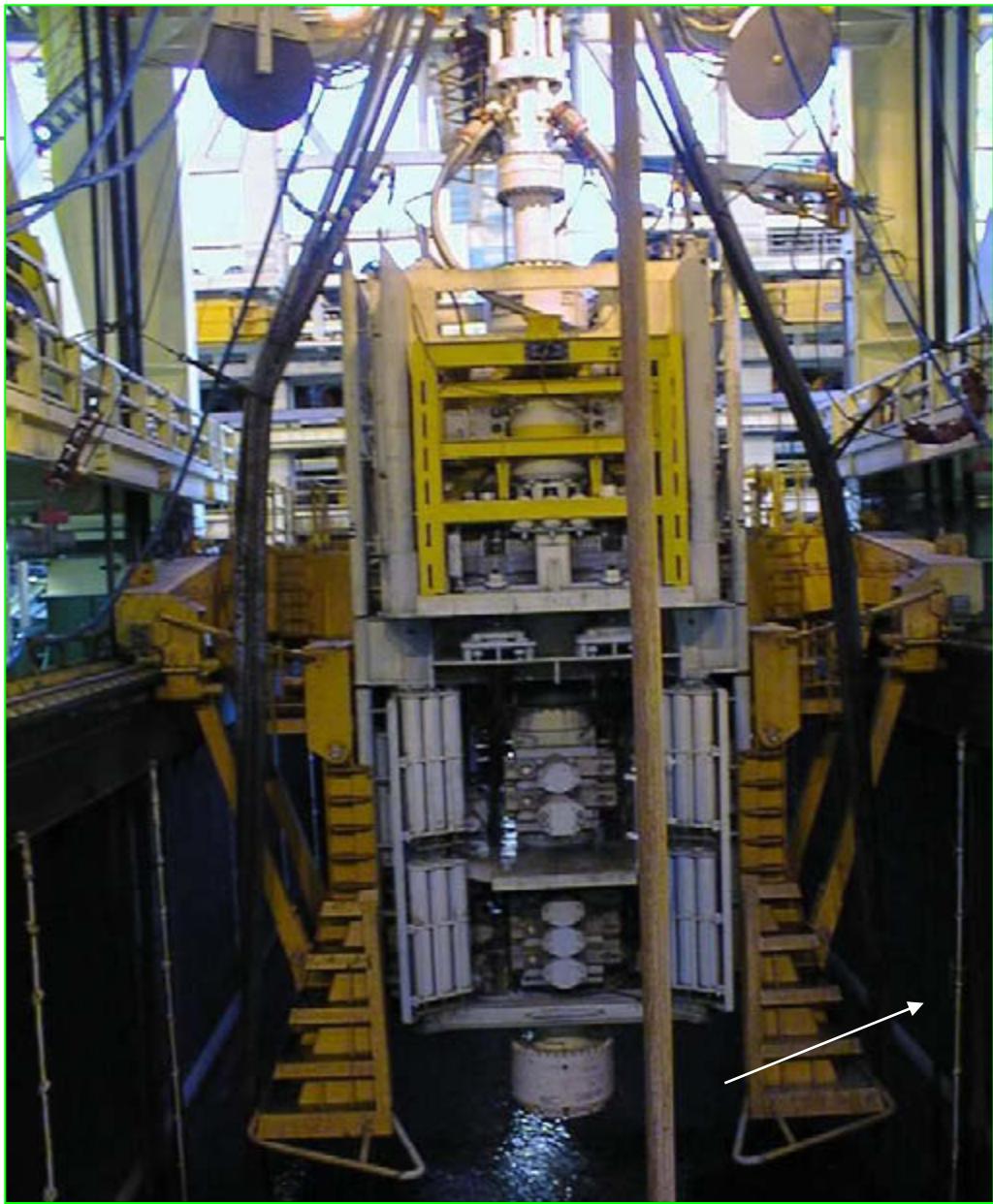
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Blow-out preventer
(BOP)

Ekipamentu ne'ebé
prevene rebenta



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ROV nia estibordu parte kotuk nia



ROV nia portu parte kotu nian



Remote Operated Vehicles (ROV) with cameras, used for viewing activities underwater

Veíkulu ne'ebé Opera hosi Dook de'it (ROV) ho kámara, uza hodi haree atividade bee-okos nian

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A support vessel will be used for:

- Transporting goods, fuel and drilling tools
 - Emergency support if required
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Ró apoio ne'e sei uza ba:

- Transporta sasán, kombustivel no ekipamentu perfurasau nian
- Apoiu emerjénsia karik presiza



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