

Top Drive Rig Up Incident - 9 August 2005

Jingemia 6 - North Perth Basin



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- **Well** **Jingemia 6**
- **Rig** **Ensign Rig 16**
- **Activity** **Install Varco TDS11S Top Drive on ODE Rig 16**
- **Mast** **Ideco Full View - 136ft clear height**
- **Crew** **Normal rig crew plus 4 Indonesian Varco rig-up crew**
- **Weather** **Cool / cold and windy with rain squalls**

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- **Sequence of Events**

- 08:30 hrs Work Permit issued
- Top drive picked up to floor
- Guide beam picked up
- Experienced difficulties with top drive clearance when attempting to connect the hanger link
- Approx. 18:10 hrs decide to change out short hanger link for long version
 - Varco operator (IP) standing on top cross brace below crown
 - Varco operator with radio on monkey board with line of sight to operator near crown and Supervisor on floor
 - Varco Supervisor with radio and one operator next to Ensign crewman operating winch

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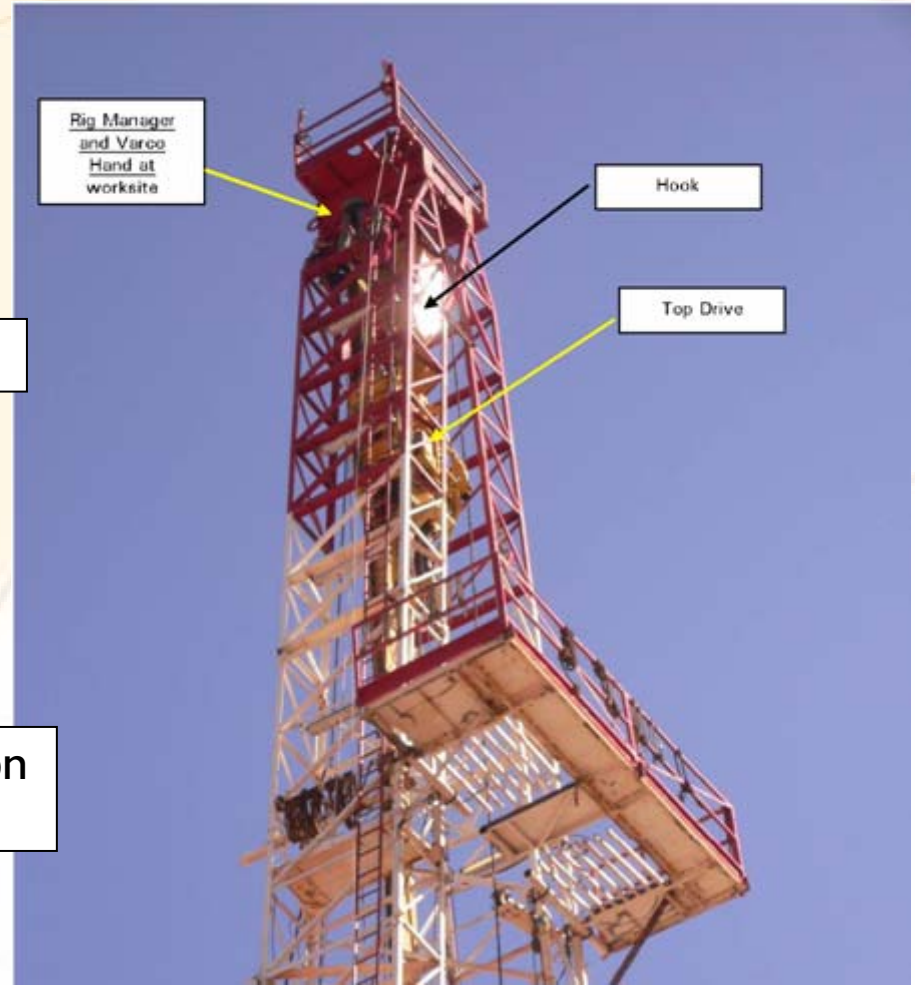
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Guide Beam
Hanger Link

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- **Sequence of Events**

- Removed short link and lowered to floor with main winch
- Picked up long link and raised to near monkey board with main winch
- Stopped winch and manoeuvred link past top drive & monkey board fingers
- Varco operator on monkey board called to operator at crown for clearance to recommence hoisting
- On receipt of clearance he called the Varco Supervisor on the floor who passed the instruction to the winch operator
- Load raised approx. 1/2m before a scream heard from the IP at the crown at approx. 18:30 hrs

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- **Sequence of Events**

- Varco operator at the monkey board called that the operator at the crown had caught his hand in a sheave
- Derrickman climbed to crown and attached IP to second inertia reel and to himself via a lanyard
- IP conscious at this time and able to assist in descent to monkey board
- Field Safety Officer raised to monkey board on man-rider
- Attached IP to man-rider and lowered to floor in double lift; IP by this stage lapsing into semi-consciousness
- Fingers retrieved from sheave and taken with IP to Dongarra then Geraldton before being transferred to Perth via Air Ambulance

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- **Sequence of Events**

- IP incurred a 'de-gloving' injury with substantial damage to forearm tendons
- Subsequently had four fingers of left hand amputated at first knuckle from palm plus surgery to forearm to address tendon damage
- Total 89 days lost time

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• Investigation

- Permit to Work issued at 08:30 hrs, incident occurred at approx. 18:30 hrs - Varco crew on shift from 06:00 hrs.
- Permit continued through crew change, Permit Authority change out, dusk
- JHA prior to issue of PTW consisted of 6 lines and was not reviewed at any time between issue and the incident
- JHA did not address issue of potential language difficulty though this was informally discussed
- Change out of link was not subject to a JHA
- Discussions had taken place but were not documented
- IP had been in the mast for approx. 3 hrs

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- **Investigation**

- IP stated that he was excessively cold and could not feel his hands
- Lack of awareness of requirement for warm clothing
- IP was not trying to manoeuvre the load when the incident happened
- IP was tired and rested his hand on the line as a convenient support
- IP acknowledged giving the OK to hoist not realising that his hand was resting on the winch line
- Mast lighting immediately below the crown is poor
- Sheave was open wheel type

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- **Corrective Actions**

- Operations suspended for 36 hrs and trauma counselling provided for ODE & Varco crews
- Held meeting with all site personnel prior to recommencing operations
- Re-iterated and re-enforced the need for detailed JHAs; the JHA for subsequent installation of the hanger link alone was 18 lines
- Re-iterated and re-enforced requirement for JHAs to be reviewed when conditions change
- Re-iterated and re-enforced requirements for Work Permits to terminate on crew change or permit Authority change

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- **Corrective Actions**

- Review procedures to include specific climatic conditions where appropriate in work orders
- Investigate use of enclosed safety becket type sheaves for all applications
- Investigate use of controlled descent device to facilitate retrieval of injured personnel from mast
- Include fatigue management in future Ice Breakers
- Develop training program for Wellsite Permit to Work users