



# RIG & LIFTBOAT MOVE PLANNING & EXECUTION

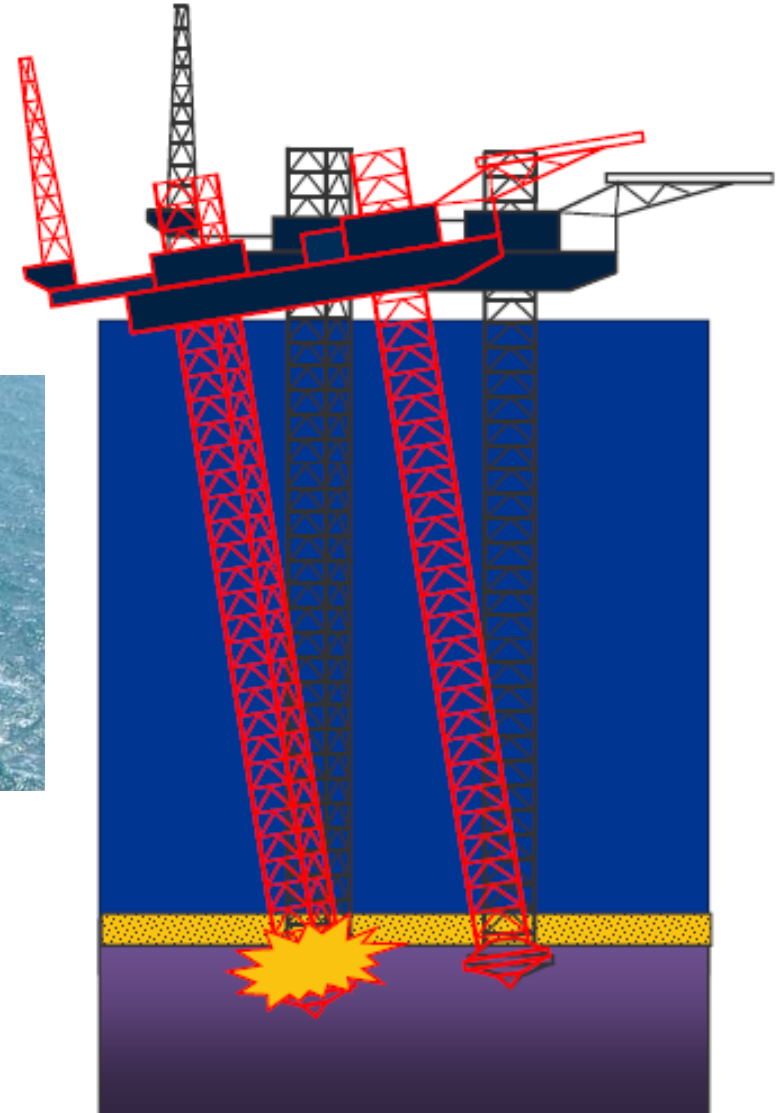
Presented by:

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Deputy Director, Fleet Operations



# Lessons Learned from Incidents



Lessons Learned from other Jackup Incidents



# Key Assessment Criteria & Information

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- Teras Internal procedures in place for the
  - Unit Specific Operations Manual
    - Key details including dimensions, number of legs, weigh,. Jacking system, pre-load details, wind areas etc.
  - Location Assessment / Site Specific Assessment
    - Water depth, Metocean conditions, airgap
    - seabed (topographic, debris, etc) and sub-seabed data (strength of soil)
  - Operations
    - Time of year & duration of proposed operations, nature of operations.
    - Crane serviceable range, accommodation requirements

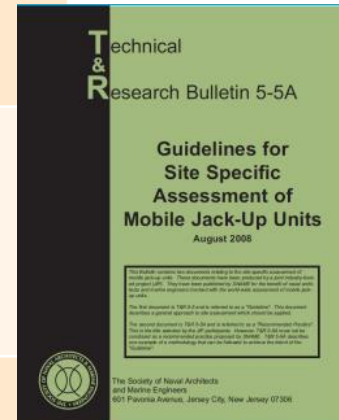
**Verified by Marine Warranty Surveyor (MWS)  
with Certificate of Approval.**



# Control Measures in place

## ● Conduct of Geophysical & Geotechnical Survey

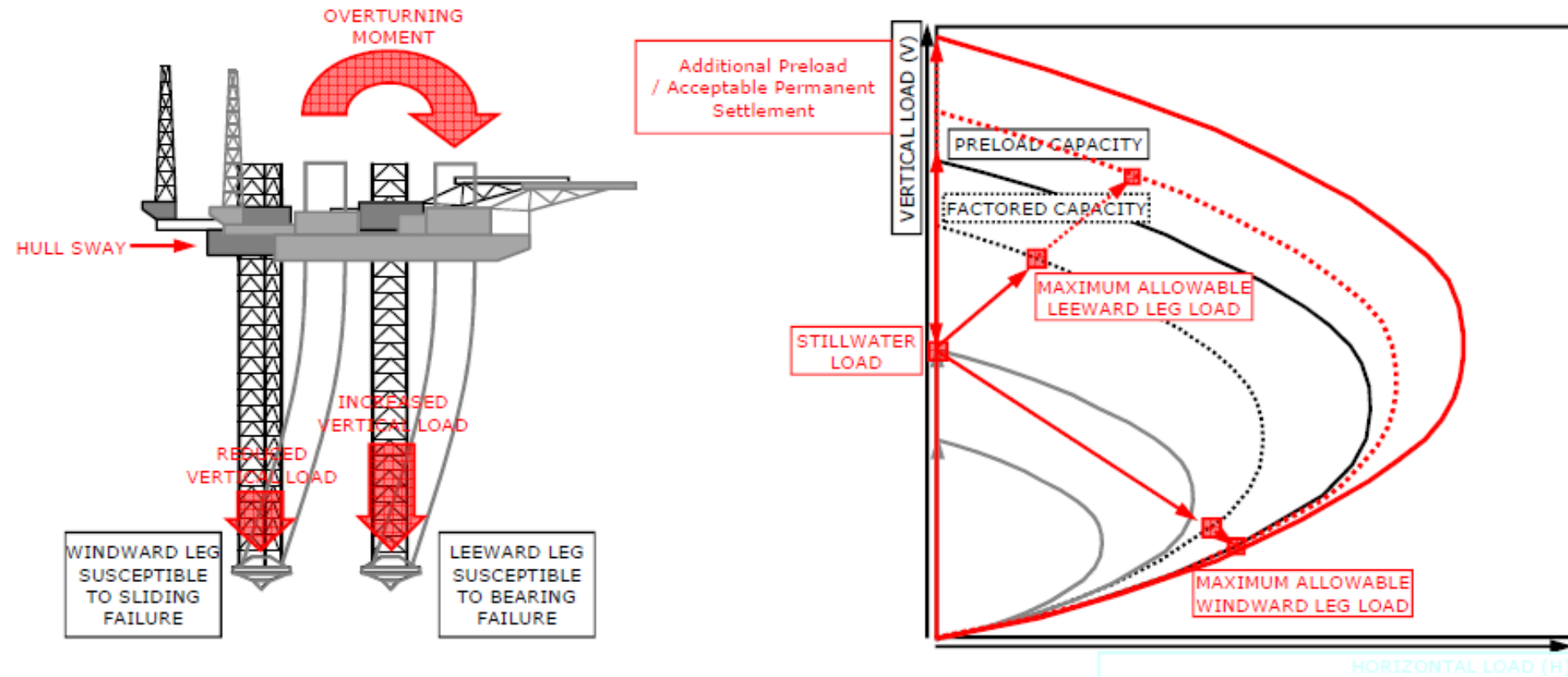
Suitability Checks	Methods
Rig Strong Enough	<ul style="list-style-type: none"><li>- Based on site specific metocean &amp; soils data<ul style="list-style-type: none"><li>- Within limited operating envelopes</li><li>- Structural integrity checks</li></ul></li></ul>
Legs Long Enough	<ul style="list-style-type: none"><li>- Subject to the following<ul style="list-style-type: none"><li>- Rig stated operating water depth</li><li>- Sufficient height for harsh metocean</li><li>- Leg penetration</li></ul></li></ul>
Location Hazards / Position	<ul style="list-style-type: none"><li>- Avoid overlapping old footprint where possible</li><li>- Avoid seabed debris</li><li>- Hull is above extreme water level</li><li>- Spudcan to platform / pile proximity</li><li>- Hull / platform proximity afloat</li></ul>





# Rig Strong Enough

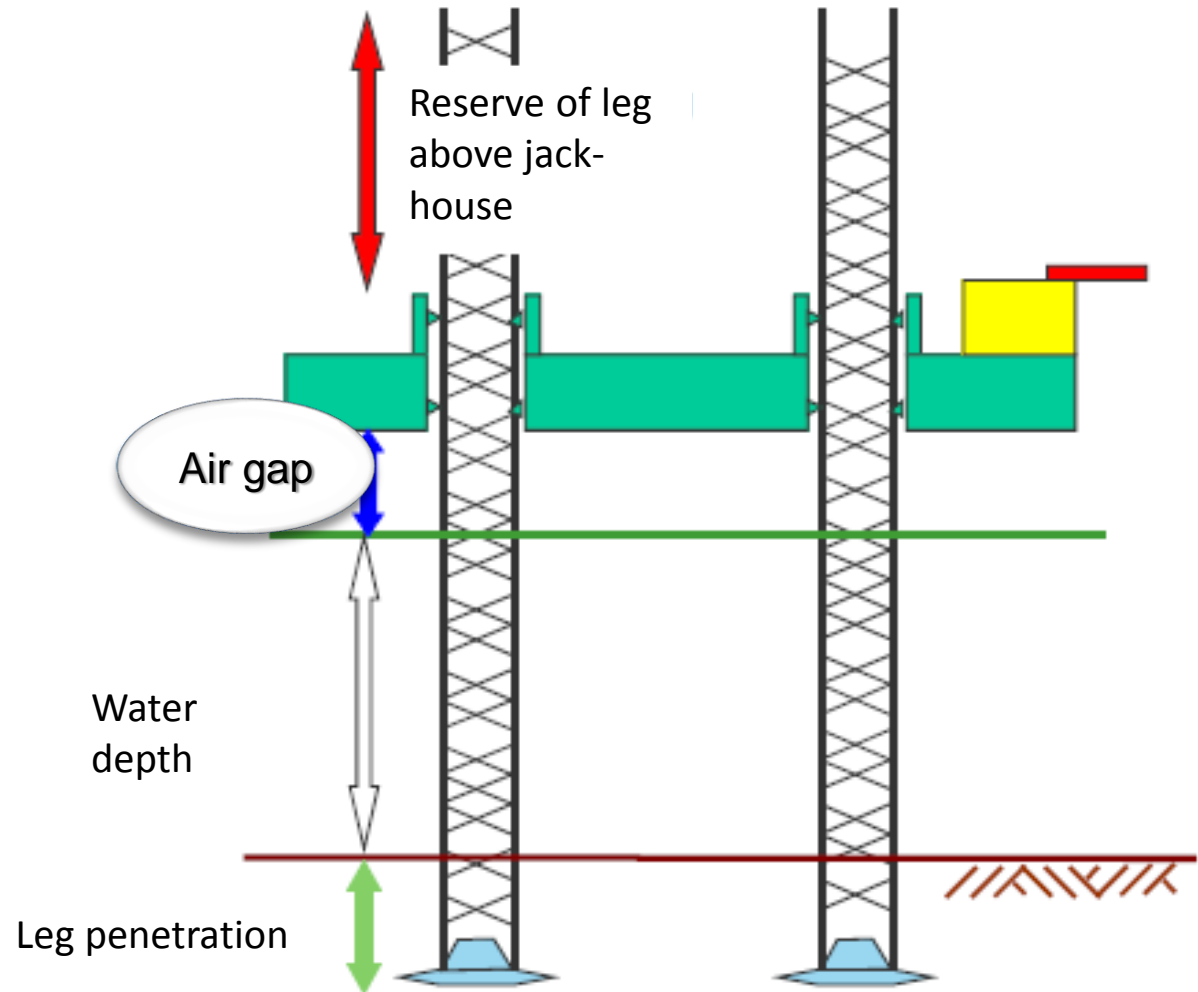
## Bearing Capacity





# Legs Long Enough

- Does it fit?
  - Max predicted penetration
  - Water Depth
  - Air gap (min or per client)





# Location Hazards

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- Rapid spudcan penetration
- Uneven seabed
- Footprints
- Debris
- Pipelines & Cables
- Boulders
- Spudcan-pile interaction
- Buried / infilled channels



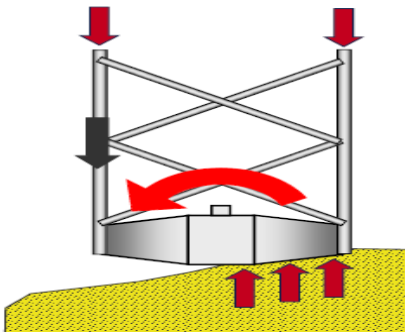
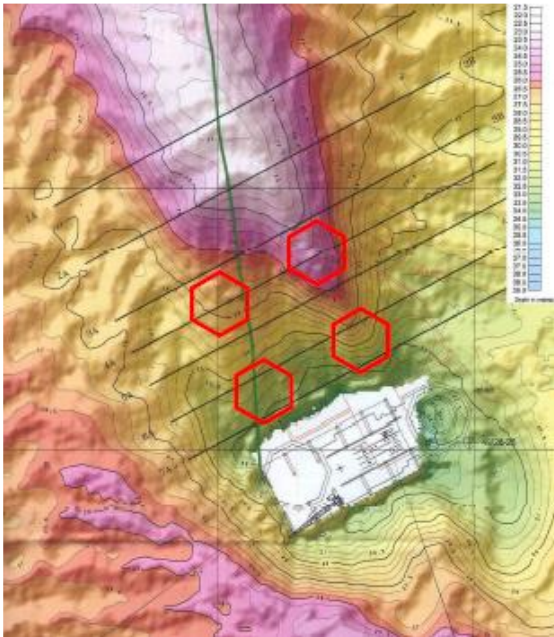






# Location Hazards

## ● Uneven Seabed



## ● Debris

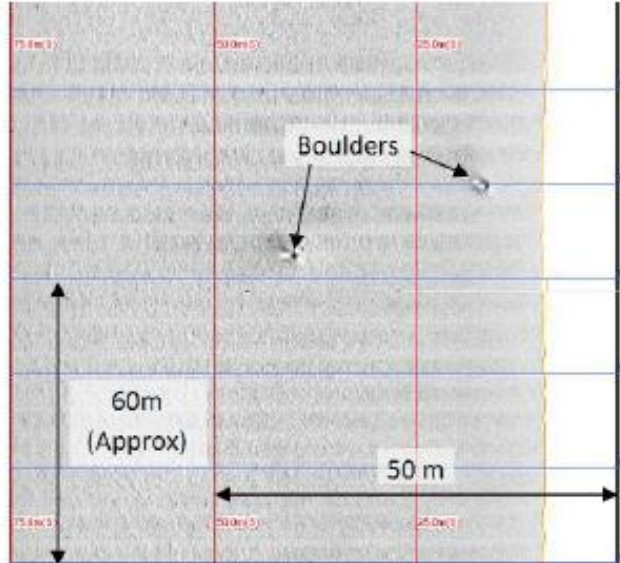




# Location Hazards

- Boulders

- Visible in bathymetry / debris survey

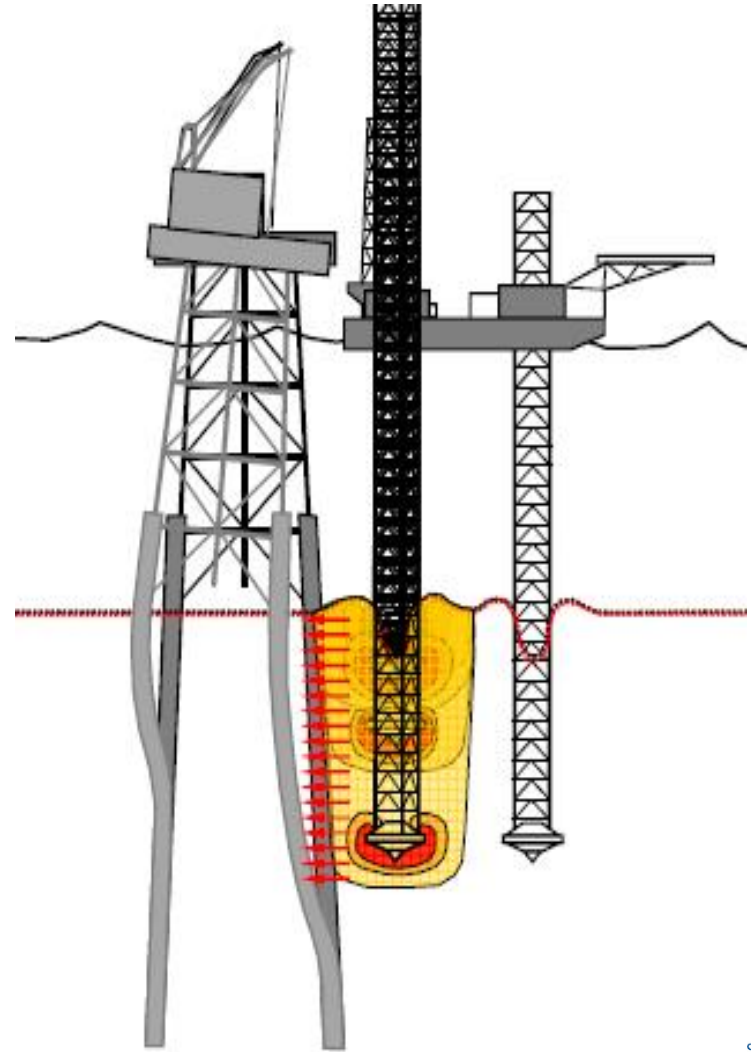


Boulders



# Location Hazards

- Spudcan-pile Interaction
  - Safe distance from the existing leg structure
  - Piled foundation structural integrity interaction

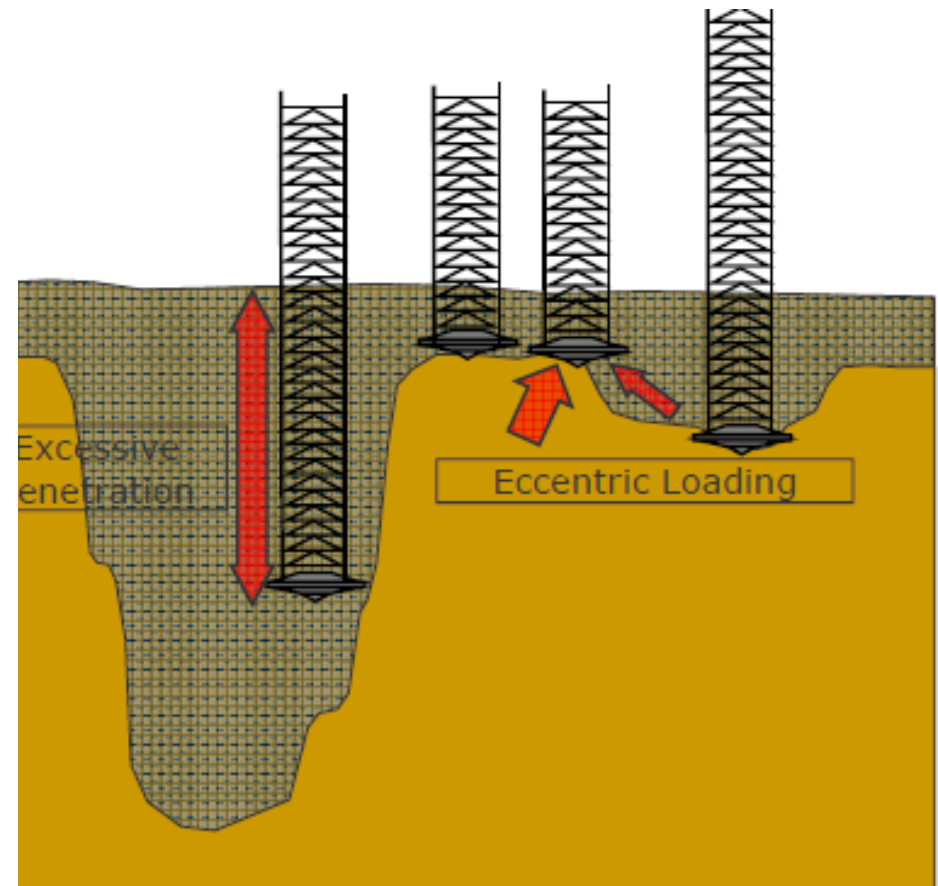
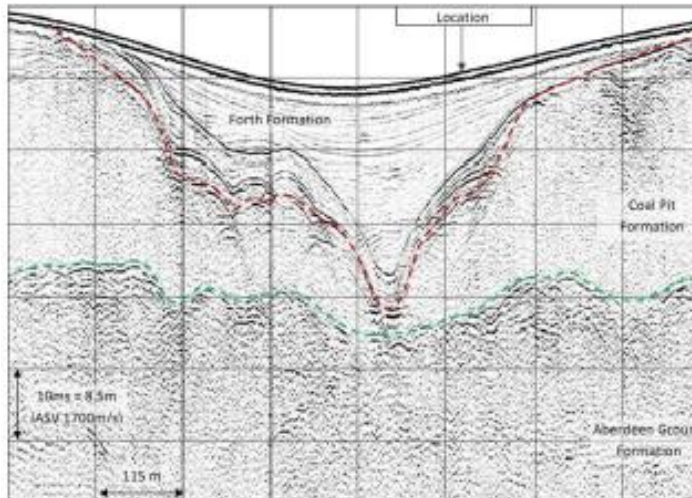






# Location Hazards

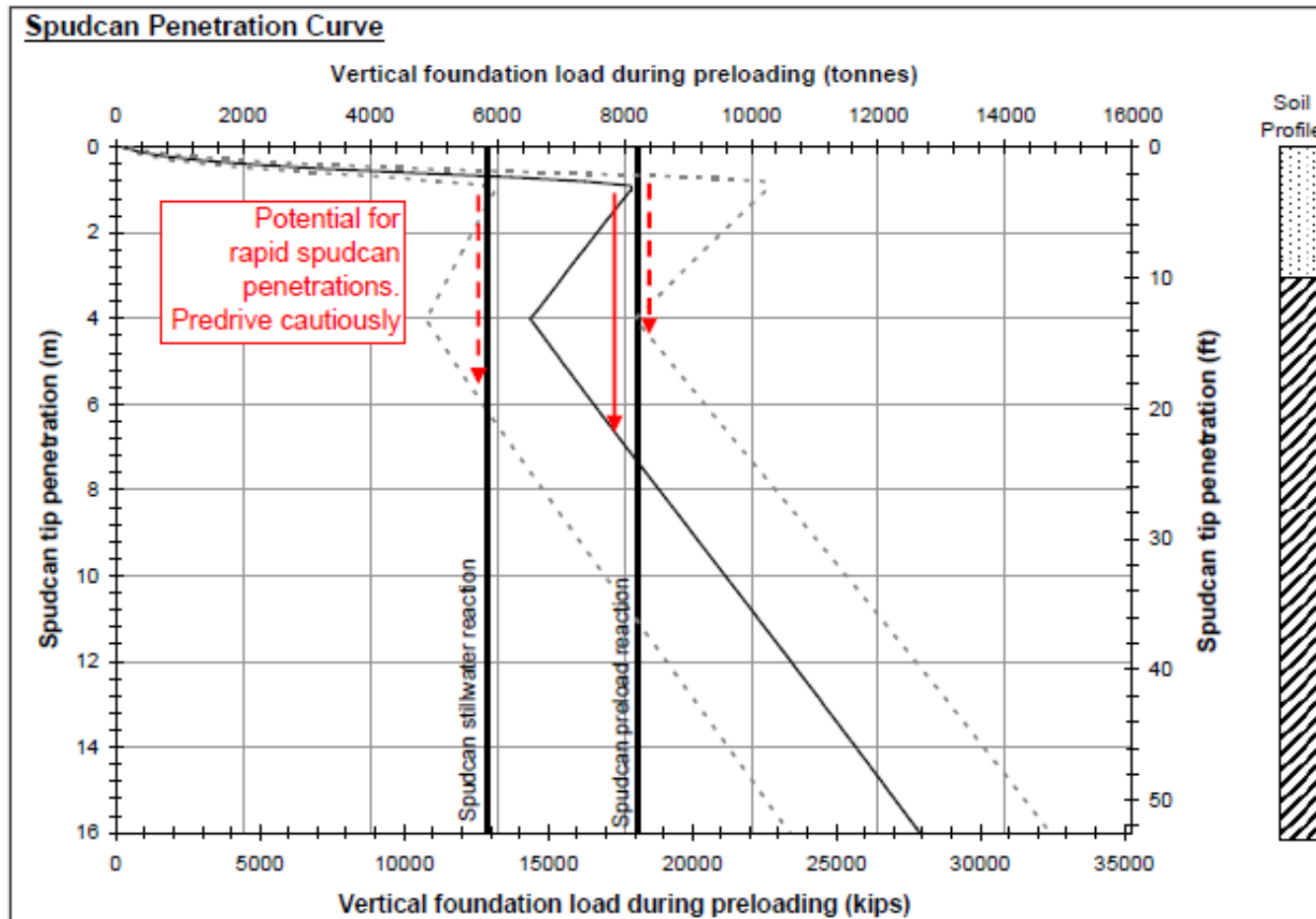
- Buried / Infilled Channels
  - Different penetration response
  - Excessive penetration
  - Eccentric loading





# Rig Strong Enough

## ● Spudcan Penetration Responses







# Rig Move Procedure

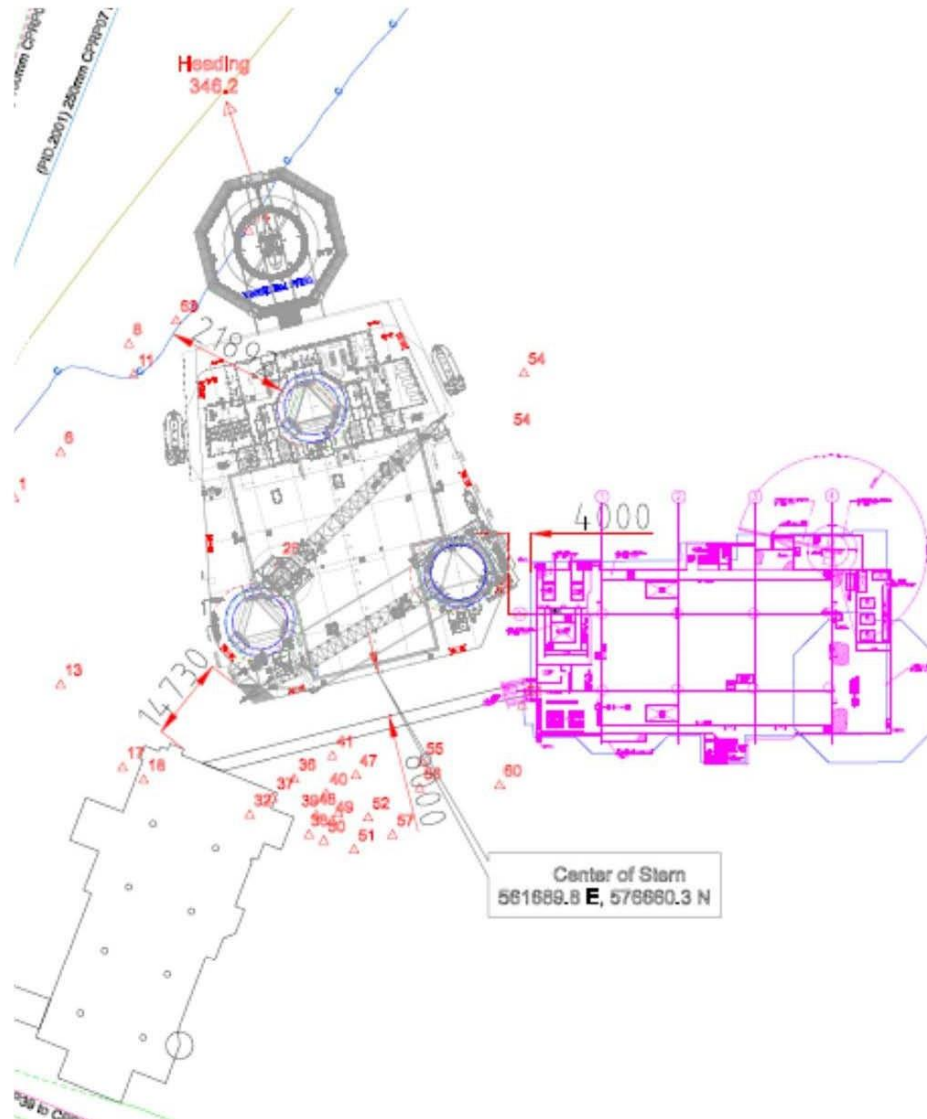


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# Final Position

Diagram showing Final Position







# Teras Offshore Liftboat Simulation Training

Manoeuvring & Bridge Resource Management  
Training





# Lift Boat Simulation Training Centre (LSTC)





# Lift Boat Simulation Training Centre (LSTC)

This assessment uses Teras Ship Handling & Positioning Assessment Criteria template.

No	Manoeuvre Performed	Max Score	Good / Competent	Satisfactory Acceptable	Req. further training
<b>Ship Handling Exercises</b>					
1	90deg course alteration in buoyed channel.	12	12		
1a	Maintain a transit course.	9		7	
2	Side stepping exercise.	12		8	
3	Approach, position & stop in marked area	12		8	
<b>Operation Area Exercises</b>					
4	Positioning with current from ahead	12		8	
5	Positioning with cross current	12		10	
6	Positioning with following current	12	11		

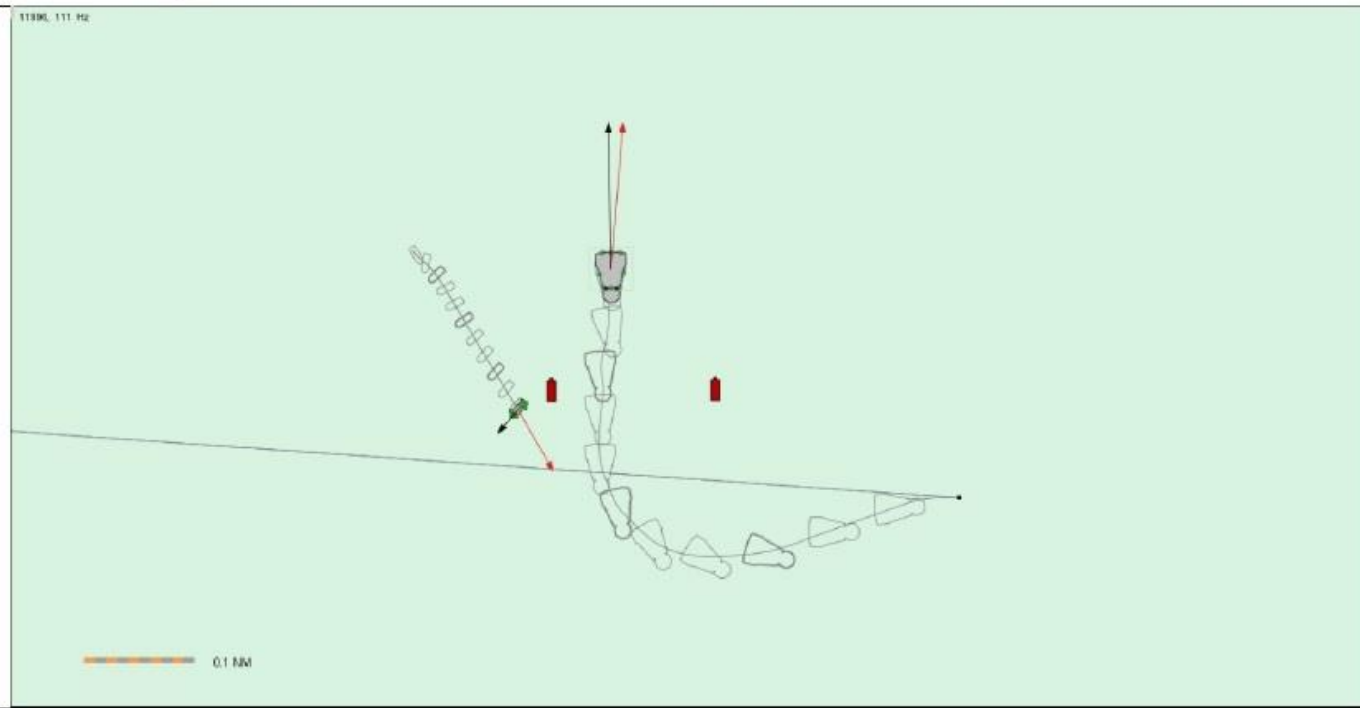
assessment



# Lift Boat Simulation Training Centre (LSTC)

## Screen Shots of Manoeuvres during Assessment

### 1&1a 90deg course alteration and Maintain a transit course



Scenarios designed based on Competency Requirements.

Scenarios include environmental factors, i.e. wind, current, swell height.



# Lift Boat Simulation Training Centre (LSTC)

## 5 Positioning with cross current



Visual aids to facilitate trainee's learning.

Trainer's feedback and comments during and immediately after trainee's session.