

CASING AND CEMENTING

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Assumptions

- Conventional oil / gas well
- Well designed by Operator
- Day rate Drilling Contract

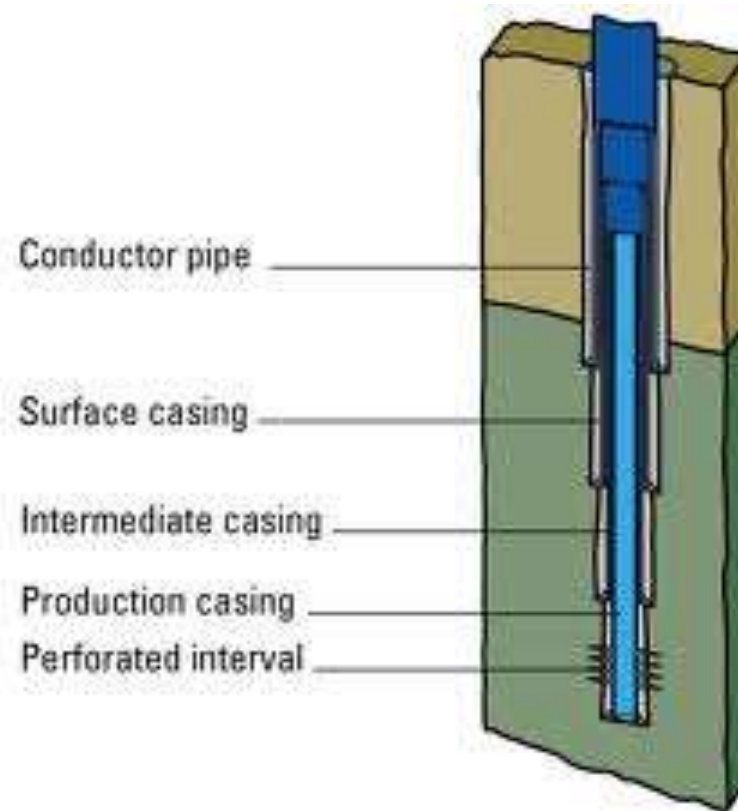
Outline

- Purpose
- Design
- Installation / Placement
- Equipment
- Risks

Casing



Overview



Purpose

- Zonal isolation
 - Pressure control
 - Reactive formations
 - Wellbore collapse

Design

- Purpose driven
- Parameters
 - Shoe depth
 - Mechanical properties (burst, collapse)
 - Gas tight?
 - Casing wear / corrosion considerations
- Company design standards

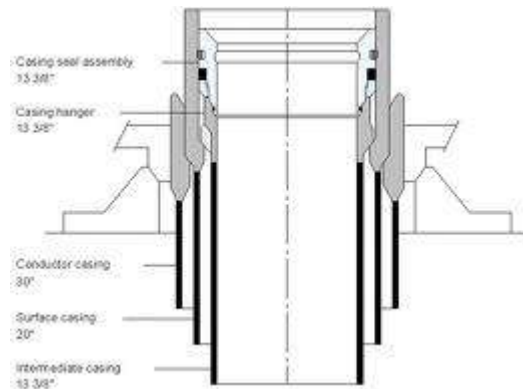
Installation

- Specialist service company



- Running speed has to be controlled
- Well control & hole condition must be monitored

Wellhead Equipment



Casing String Accessories



Risks

- Well control incident
- Casing string gets stuck
- String failure

Cementing



Purpose

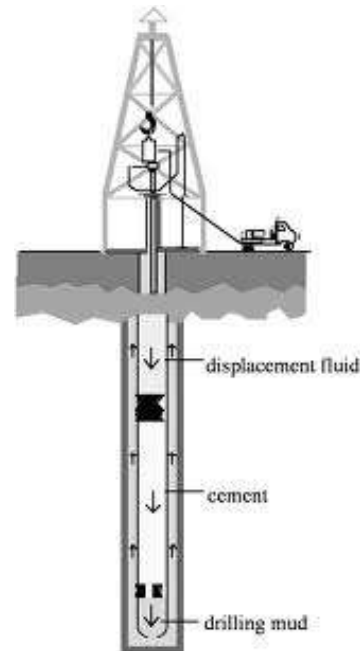
- Isolation of casing annulus

Design

- Co decides what zones must be cemented
- Slurry formulation usually made by Cementing Co.
- Criteria:
 - What zones need to be isolated?
 - Hole geometry
 - Placement time
 - Presence of hydrocarbons
 - Pressure control
 - Lost circulation

Placement

- Slurry mixed and pumped by Cementer
- Displacement often by Drilling Contractor with rig pumps



Placement

- Displacement critical to ensure turbulent flow. - Hence need for centralisation
- Post placement evaluation?

Cementing Equipment



Risks

- Unit or equipment failure
- Lost circulation
- Well control risks when slurry setting
- Channeling
- Over-displacement

Thank-you

