

Managing the Project

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Unique Features of this Project - 1

- The goal is clear but the route to it cannot be predicted with confidence
- Multiple technology and operational options available to achieve project goals
- Activity will be cost constrained
- New technologies may arrive to alter the direction of the project
- Major show-stoppers will arise unexpectedly during planning

Unique Features of this Project - 2

- Operations will take place close to the limits of the technologies involved
- Subsurface conditions may differ profoundly from the prognosis
- Unforeseen problems may force termination of operations
- Effective operations will involve multiple contingencies, defined rules and change protocols

Project Objectives

- Reach the MoHo – or Acquire data to calibrate models?
- Single well or sequence of wells?

Clarity of objectives is critical to ensure success

Articulation of objectives is a non-trivial task

Nature of the Project

- Managing uncertainty: objectives, plan, science and the technology
- Stakeholder and political aspects will dominate
- Major unknowns will arise and have to be dealt with
- Assumptions will frame the project and must be routinely challenged

Not a “normal” project, will require skilful management

Disruptive Technologies - Reelwell

Dual Drill String (DDS)

- > Return of cuttings through inner string

Top Drive Adapter (TDA)

- > Swivel for drill fluid in and out

Dual Float Valve (DFV)

- > Enables downhole isolation

Piston

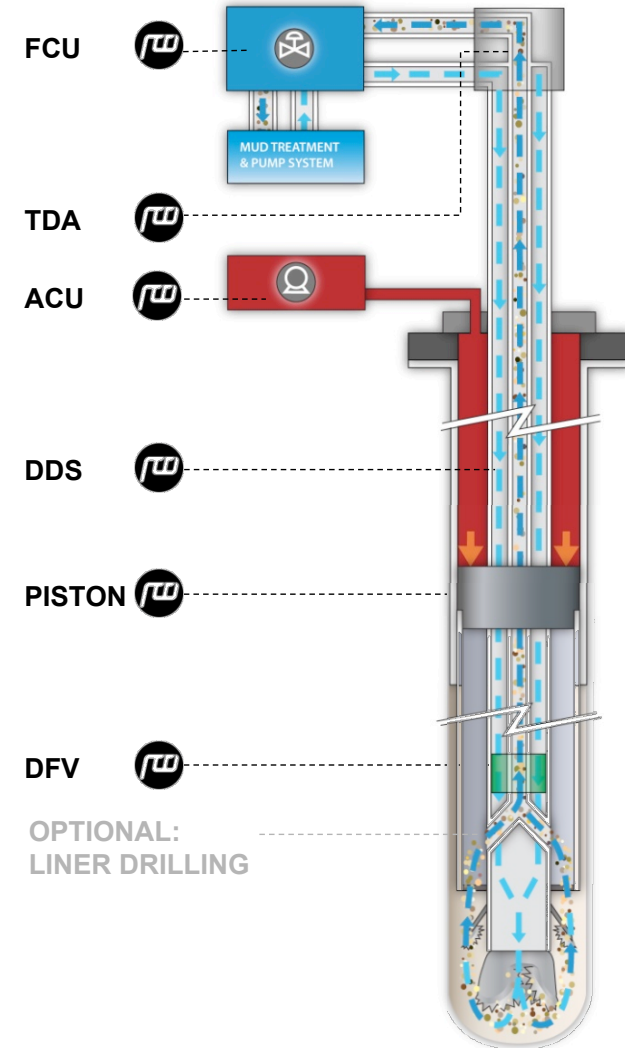
- > Pushing the bit forward & isolating well bore fluids

Flow Control Unit (FCU)

- > Control valve arrangement, operates DFV

Annulus Control Unit (ACU)

- > Controls the annulus pressure



Project Scoping

- High Level:
 - Appoint a Project Board
 - Set up a Project Office
 - Publish Project charter
 - Work out how to manage the project
- Working level
 - Refine and prioritise scientific goals
 - Clarify stakeholder requirements
 - Define success and failure criteria

Feasibility Assessment

- Build on Kanazawa workshop
- Engineering analysis of options
- Determine lowest cost / risk route to objective

Outcome:

- Approve chosen option, or stop project
- If continue: approve budget, organisation and schedule for next stage

Project Definition

- Detailed basis of design for the project systems and plan
- Ability to respond to emergence of “unknown unknowns”
- Build up project team to undertake detailed planning
- Risk reduction studies, detailed site surveys
- Implement formal project management systems

Project Execution

- Detailed execution planning
 - Disciplined, rigorous and detailed
 - Logistics will be a major factor
- Execution of the operations
 - Compliance with the plan, strict control of change
- Post project review

Operational Control

- Major change in mindset from current models
- Four key areas:
 - Organisational structure
 - Compliance with the plan
 - Communication and decision process
 - Handling of Rules, Surprises and Contingencies