



R&D to Field Trial

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Objective of Field Trial

The overarching objective of any field test is to determine if a technology is credible at the right cost.

After months of research or development, the technical objective and method for field test should be clear to all, but *rarely is it clear.*

Why Are Field Test Objectives Unclear?

- **Vendor and operator have different technical objectives.**
 - Vendor wants to prove technology at a profitable cost.
 - Operator wants to determine if there is a viable technology and at what cost.
 - **Field trials involve multiple disciplines which may not have been involved with development.**
 - Different technical languages
 - Different perspectives
 - Operator/management wants to determine if technology is viable
 - Operations at minimum wants no harm or impediment to the well.
 - Scientists believe technology testing is the highest importance (after safety), and all else is secondary.
 - **Well objectives and operational constraints are not defined and may conflict with field testing objectives.**
 - **Lack of understanding what really can be credibly tested**
 - **What determines success or failure is not clear.**
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Best Practices Bring All Disciplines Together

- **Identify the right well for the trial**
 - What are field test objectives
 - What are the well objectives?
 - Are there any operational constraints?
 - What are the contingency plans?
- **Define success and failure**
 - What is the technical basis for determining a conclusion?
 - What specifically is the desired conclusion?
- **Identify liabilities in case failure occurs**
- **Determine authority levels**
 - Who makes decisions in normal operations?
 - Who makes decisions in unforeseen circumstances?
- **Do the authority levels understand and agree to field test objectives**

Best Practices for Field Tests

- Define IP
- Define testing costs
 - How will costs be managed?
 - Who has spending authority?
- Identify personnel needed on the rig and in the office
 - What are their roles?
 - How will the roles interact, especially across disciplines and companies?
- Determine what will be reported
 - Who needs to see the report and when?
 - What does the team really want/need to know about the technology
- Specify samples
 - When and what samples to take?
 - How will they be tested?
 - Who owns the data?

Potential Outcomes

- If success and failure have been well defined ahead of the test then outcome should be clear to all
- If success and failure have not been well defined ahead of the test, each discipline will have a different perspective of success/failure and reasons why.
 - Scientists will rationalize result.
 - Operator will view it in black/white terms.
- Ultimately, the believers will persevere and continue developing and improving the technology.



“I Like Mud”