



**David Jelley – SIT Coordinator - SIT Explained
System Integration & Test
S.I.T. PRESENTATION
2023**

SUMMARY:

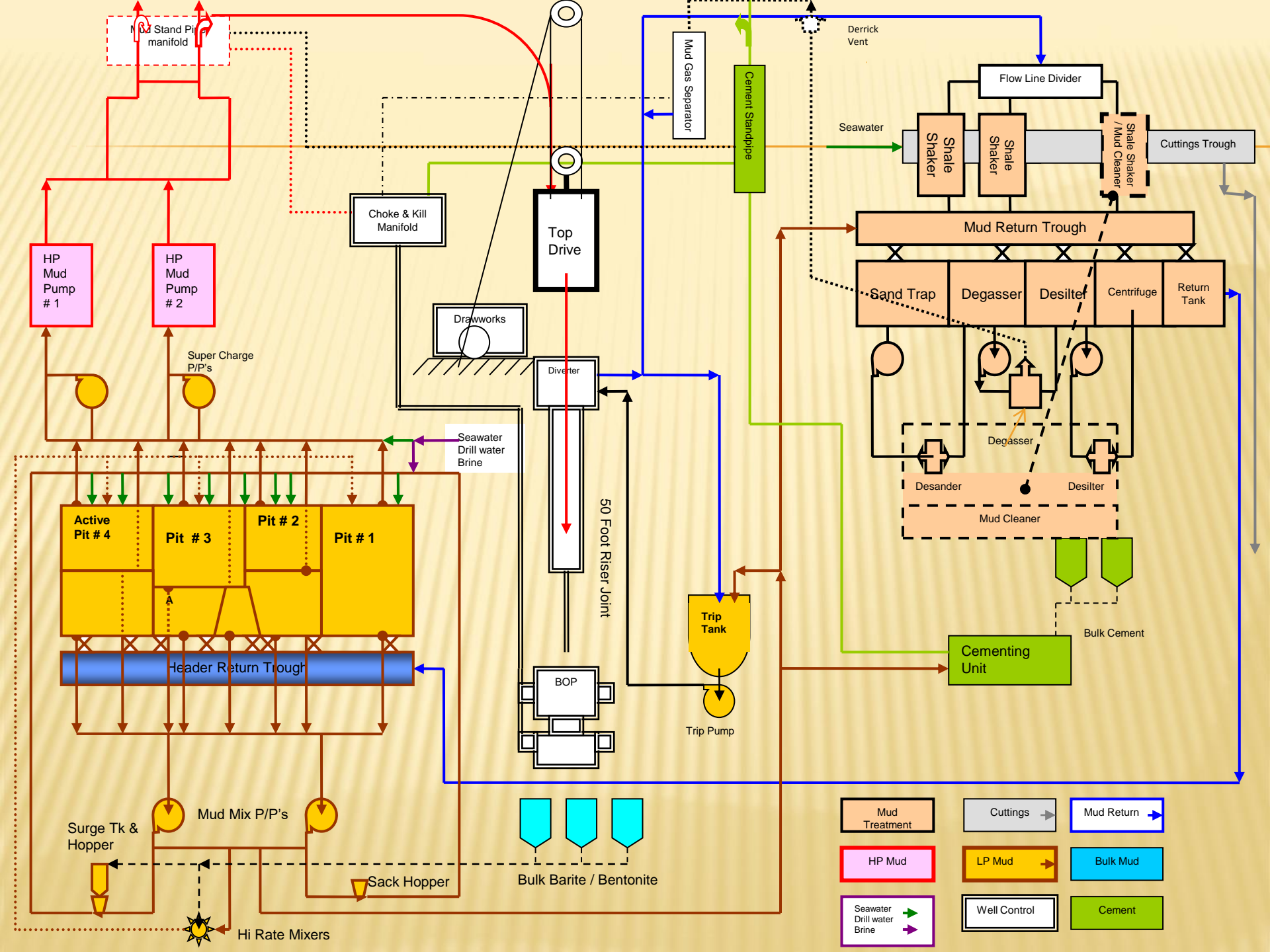
- When a MODU is to undertake its five yearly SPS (special periodical survey) or reactivation ready for service it will normally require SIT (Systems Integration Testing) on completion of the project
- We can prepare and coordinate the SIT and oversee the commissioning on-board the MODU prior to the rig departure. Commissioning procedures can be written & prepared and be reviewed with each Head of Department
- Prior to **SIT**, any equipment that has been installed, upgraded, replaced or repaired during shipyard will have been verified as Mechanically and Electrically Complete. Commissioning of the equipment will also be complete and accepted with both ourselves, operations & projects teams, data is recorded on separate procedures

SIT PHASES:

- The purpose of the SIT is to simulate a drilling operation (as near as possible) and prove integration between the systems. It allows for data recording that can be used as a baseline for the rig. SIT also verifies that any upgrades / repairs to equipment, pipework and structure have been completed, with the integrity tested under pressure.
- SIT requires that the systems are run together over a pre-determined time frame. On normal occasions there will be 24 hours of constant running of the equipment. This will be split into two 12hour periods
- First 12 hours phase requires pits to be filled and system lined up for return to pits over shakers, troughs, rig floor manifolds etc (**see example flow diagram**)



- Second 12hour phase, requires system to be lined up for pumping through TDS and Jetting sub to sea. Choking back allowing pressure build up to Mud Pumps



SIT DATA RECORDING:

- During the testing period, the equipment is to be monitored for any potential breakdown, hazards, leakages, damage etc.
- Bring any defects to the attention of SIT Coordinator so criticality can be ascertained. Some issues can be used to simulate redundancy in equipment
- The object of SIT is to keep the equipment running for the full period. We try NOT to stop the running. If equipment is allowed to cool down the testing starts from the beginning again
- It is possible to keep equipment running with minor defects (ie: Small leaks etc). In this case we record the defect as a “Punch” item.
- If there are any outstanding defects with equipment, we take note of this prior to testing (Maximo, EFR etc)

PERSONNEL:

In order to ensure a safe, professional and successful SIT, the cooperation of both the Rig and Project personnel will be required. Prior to commencing the SIT all personnel are to be made aware of their tasks and requirements. This will involve Risk assessments, pre-task meeting with HODs. Tool Box talk with all personnel.

- **OIM:** Management of personnel, the stability and load.
- **Technical Coordinator:** Assisting with data gathering and management of personnel. Verification and acceptance
- **Electrical:** Monitor the equipment for any possible faults during SIT and gather information as per the data tables (to be issued and discussed with SIT Coordinator)
- **Mechanical:** Monitor the equipment (engine loads) for any possible faults during SIT and gather information as per the data tables (to be issued and discussed with SIT Coordinator)
- **Site Managers :** Monitoring drilling equipment start up and management of personnel. Verification and acceptance
- **Driller / AD:** Operating equipment from Drill Floor
- **Derrick Man / Asst. Derrick Man:** In pump room, shaker and pit rooms monitoring tank levels, pressures on pumps, defects etc.
- **Roughnecks:** Placed at the direction of supervisors to ensure that all areas have personnel coverage.
- **SIT Coordinator:** Monitoring equipment, Gathering information from all the running equipment. Advising on the steps required for completion and verification / acceptance. Assisting in any monitoring or repairs as required.
- **Project leads:** Assisting with data gathering, monitoring of running equipment and acceptance

COMPLETION:

- On completion of SIT, equipment will go through a cool down period before stopping.
- All gathered information to be submitted to SIT Coordinator. Sheets will be reviewed with Heads of Department and final sign off / close out of the procedure.
- All procedures will then be prepared into a final report by SIT Coordinator and submitted to Project Manager for distribution to client & crew.

Thank You for taking the time to go over this presentation. Your input and cooperation is critical to the success of the final phase of your shipyard project

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SAFETY - A SMALL INVESTMENT FOR A RICH FUTURE