

Formation Pressures and Well Control

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Cook Inlet RCAC Quarterly Board Meeting

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Well Control

- **Pressure Management**
 - Confine subsurface pressures to their native strata using a combination of fluid and mechanical barriers

Primary Well Control
20 AAC 25.033

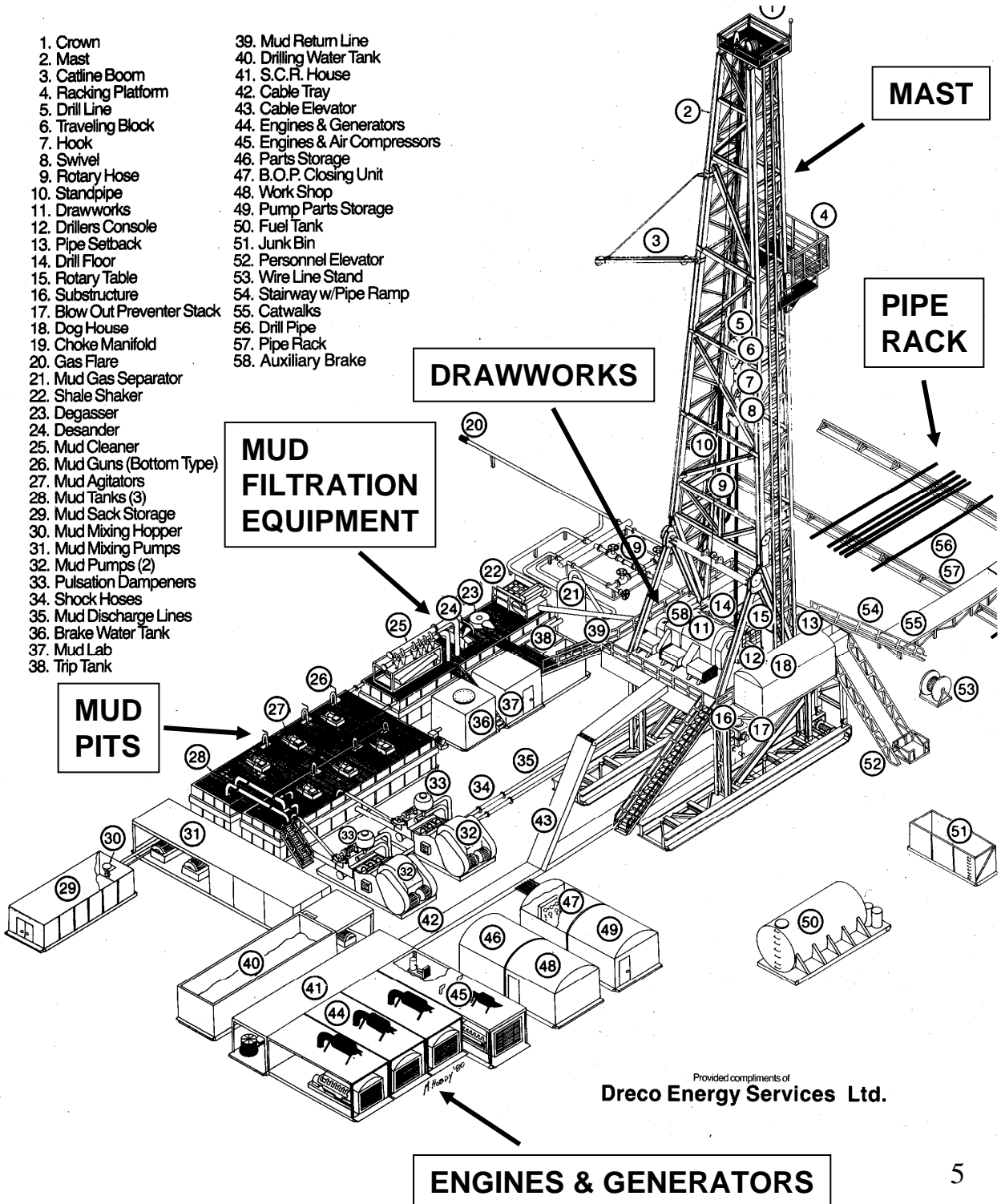
- **Drilling Fluid Program**
 - Appropriate Fluid Weight to Overbalance Formation Pressures
 - Proper Rheological Properties
 - Carry Formation Cuttings to the Surface
 - Minimize surge or swab while tripping

- **Drilling Fluid System**
 - Sufficient Pit Volume with Pit Level Indicators
 - Measuring System for Accurate Determination of Drilling Fluid Flow
 - Equipment to Keep the Drilling Fluid Properly Conditioned
 - Appropriately Sized Mud Pumps

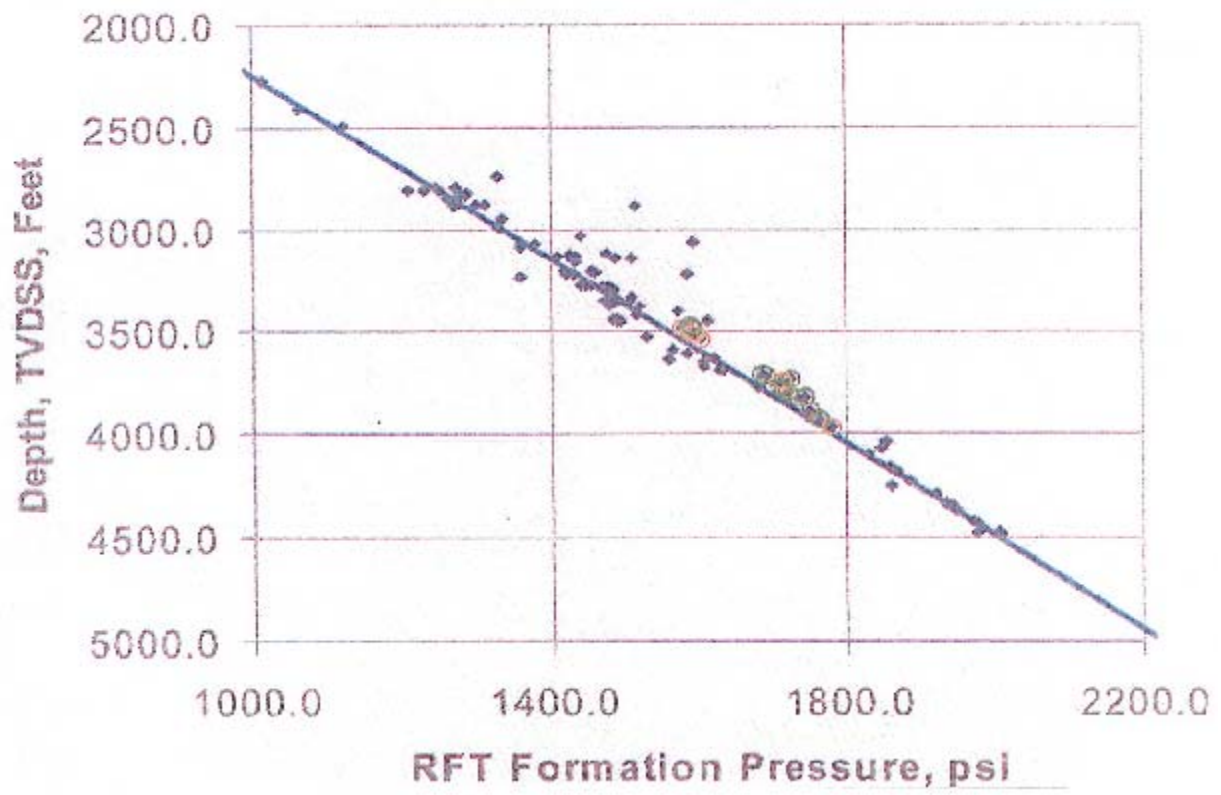
Secondary Well Control
20 AAC 25.035, et al

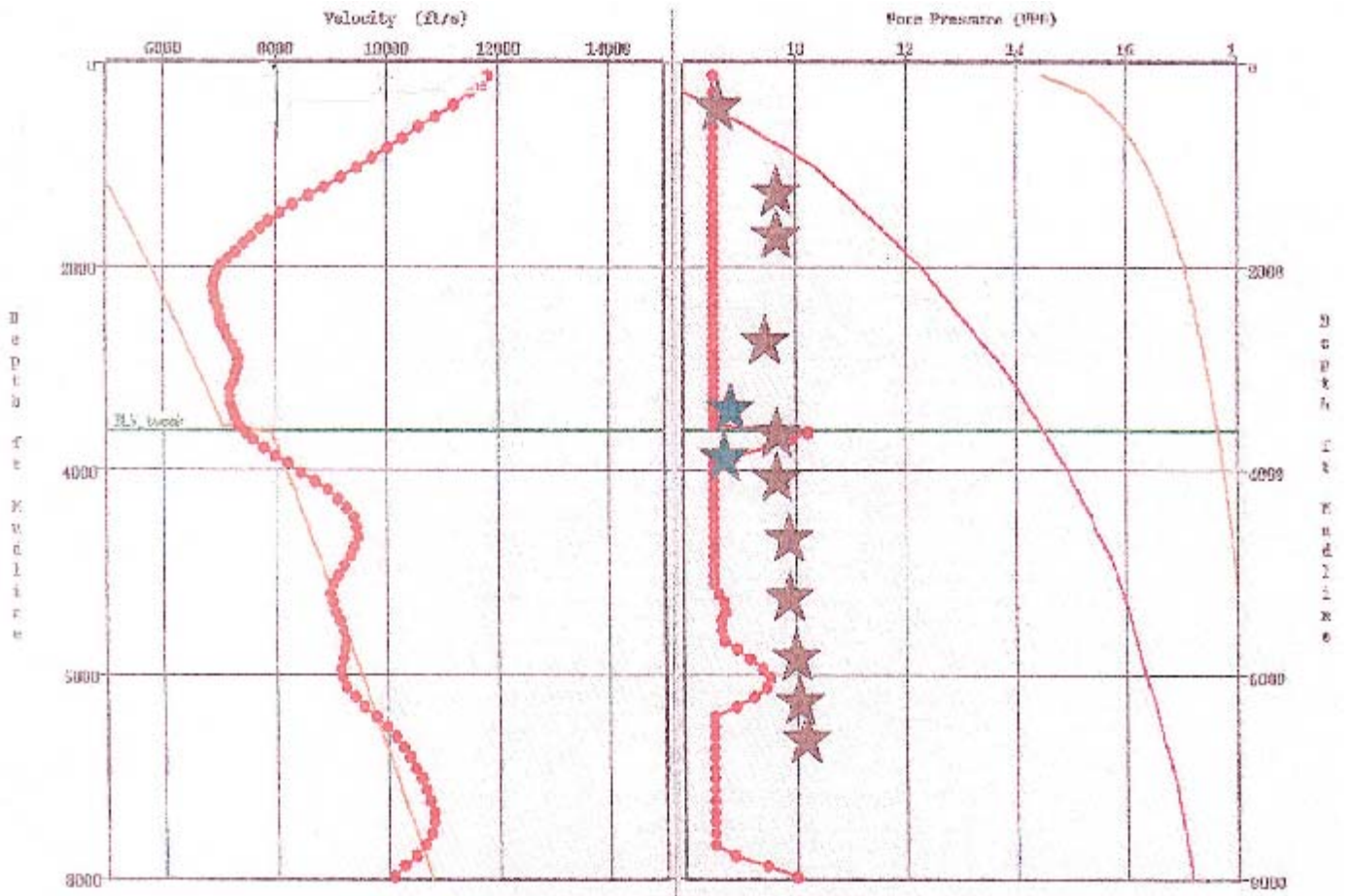
- Mechanical Devices
 - Diverter
 - Blowout Preventer Stack
 - Wellhead/Christmas Tree
 - Cemented casing

MAIN RIG COMPONENTS



Provided compliments of
Dreco Energy Services Ltd.





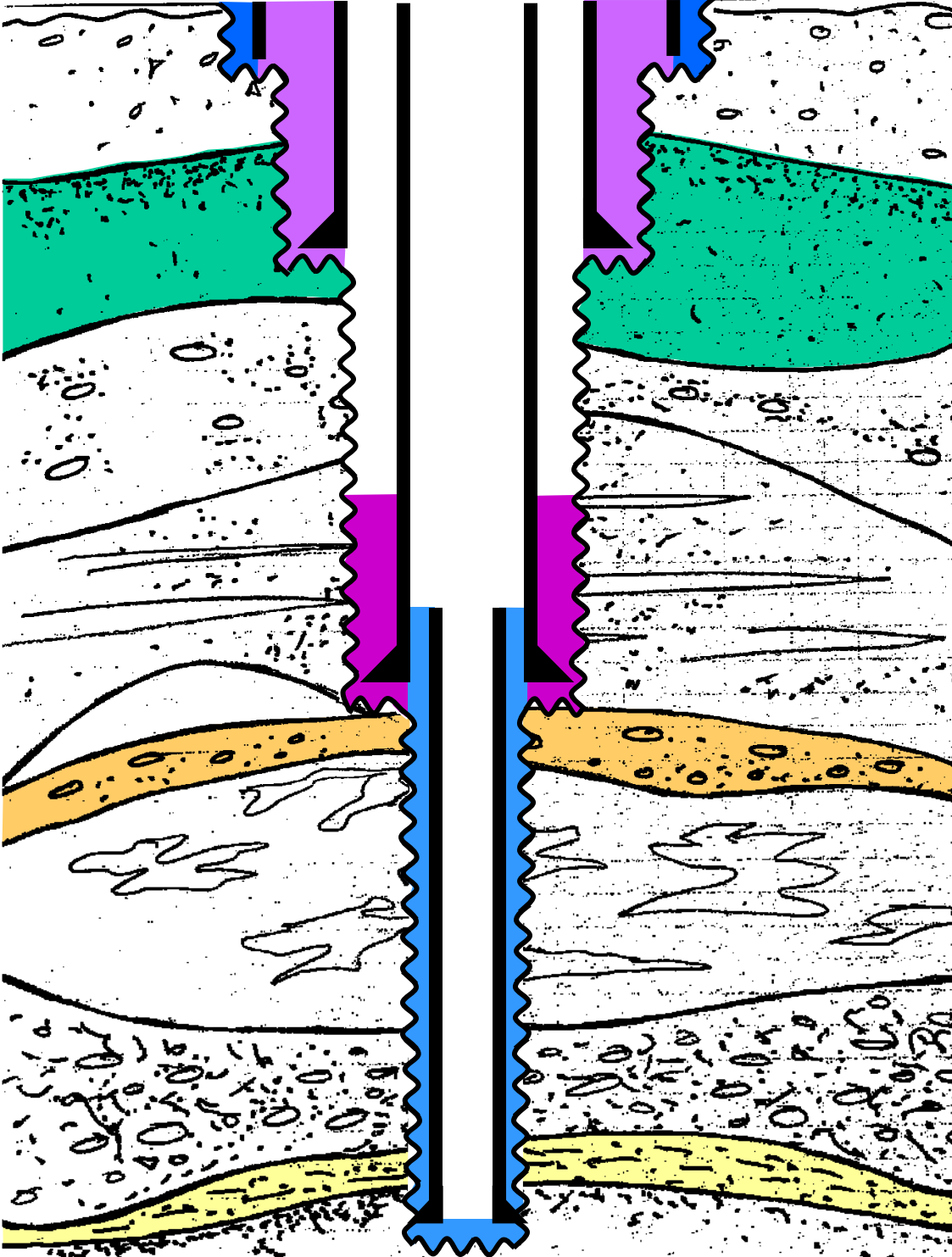
Casing and Cementing

20 AAC 25.030

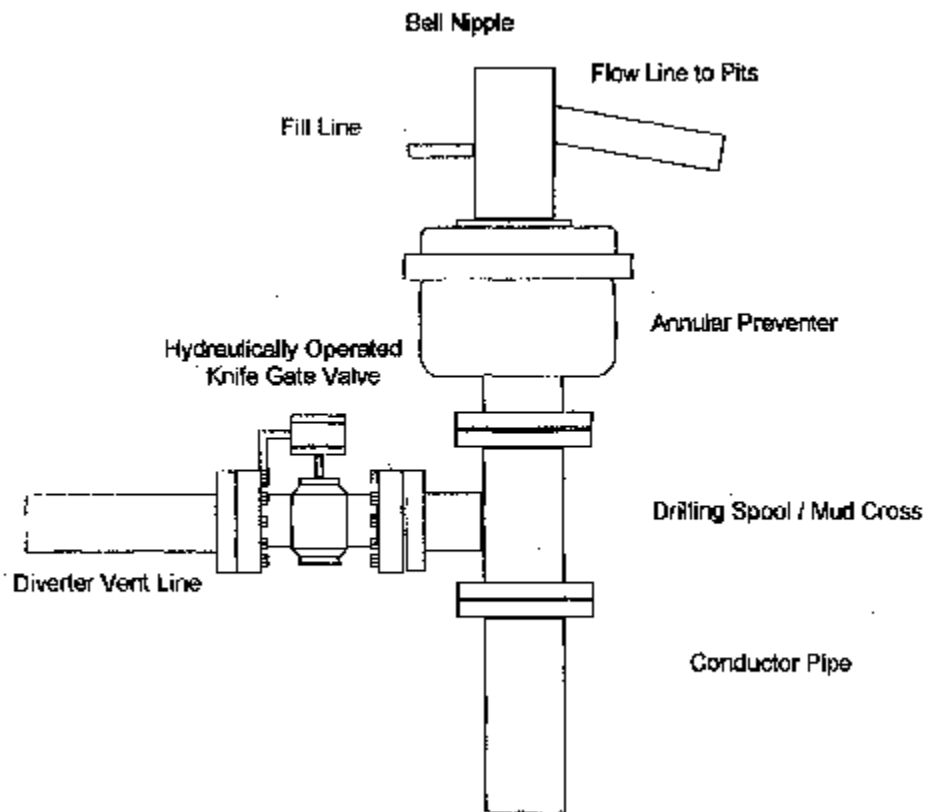
- **Casing and Cementing Requirements**
 - Provide safe operating conditions
 - Confine fluids to the wellbore
 - Prevent fluid migration
 - Ensure control of well pressures encountered
 - Protect against thaw subsidence and freezeback
 - Prevent contamination of fresh water
 - Provide well control until next casing is set
- **Specific Casing Strings**
 - Structural and Conductor
 - Surface Casing
 - Intermediate Casing
 - Production Casing and/or Liner

BASIC WELL

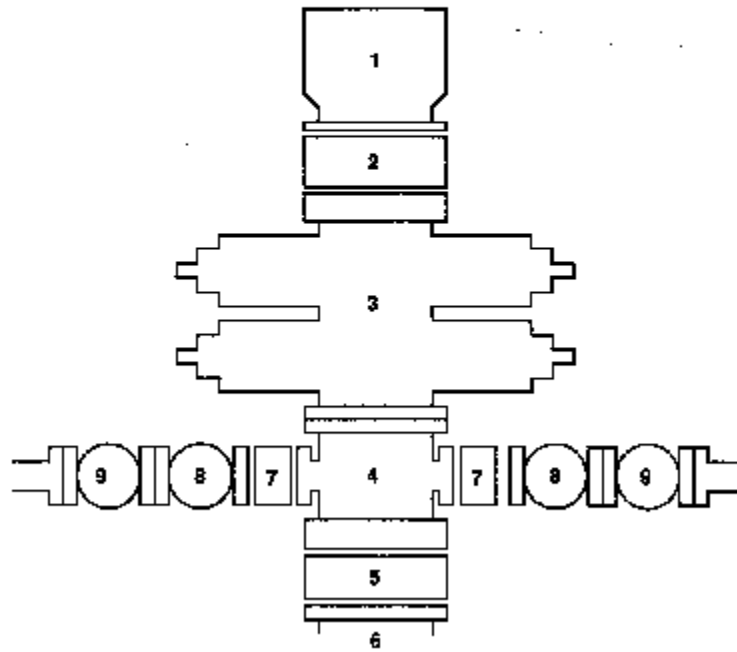
Surface



Diverter System Schematic



Low Pressure BOP Stack
3000 psi or less



High Pressure BOP Stack > 3000 psi

