

Well Inspections

Pre-inspection Preparation

Types of Inspections

Violations



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Pre-Inspection Preparation

- Establish purpose and scope of the inspection
- Review background information and agency records
- Call the operator for announced inspections
 - Set up time and place for meeting
 - Inform the operator of what the inspection is for and the equipment that may be needed

Pre-Inspection Preparation

- Prepare documents and equipment
 - Notice of inspection
 - Equipment used for testing (e.g., pressure gauges, fittings, tools, recording devices)
- Coordinate schedule with laboratory if samples are to be collected
 - Lab hours
 - Holding times

Preliminary Site Investigations

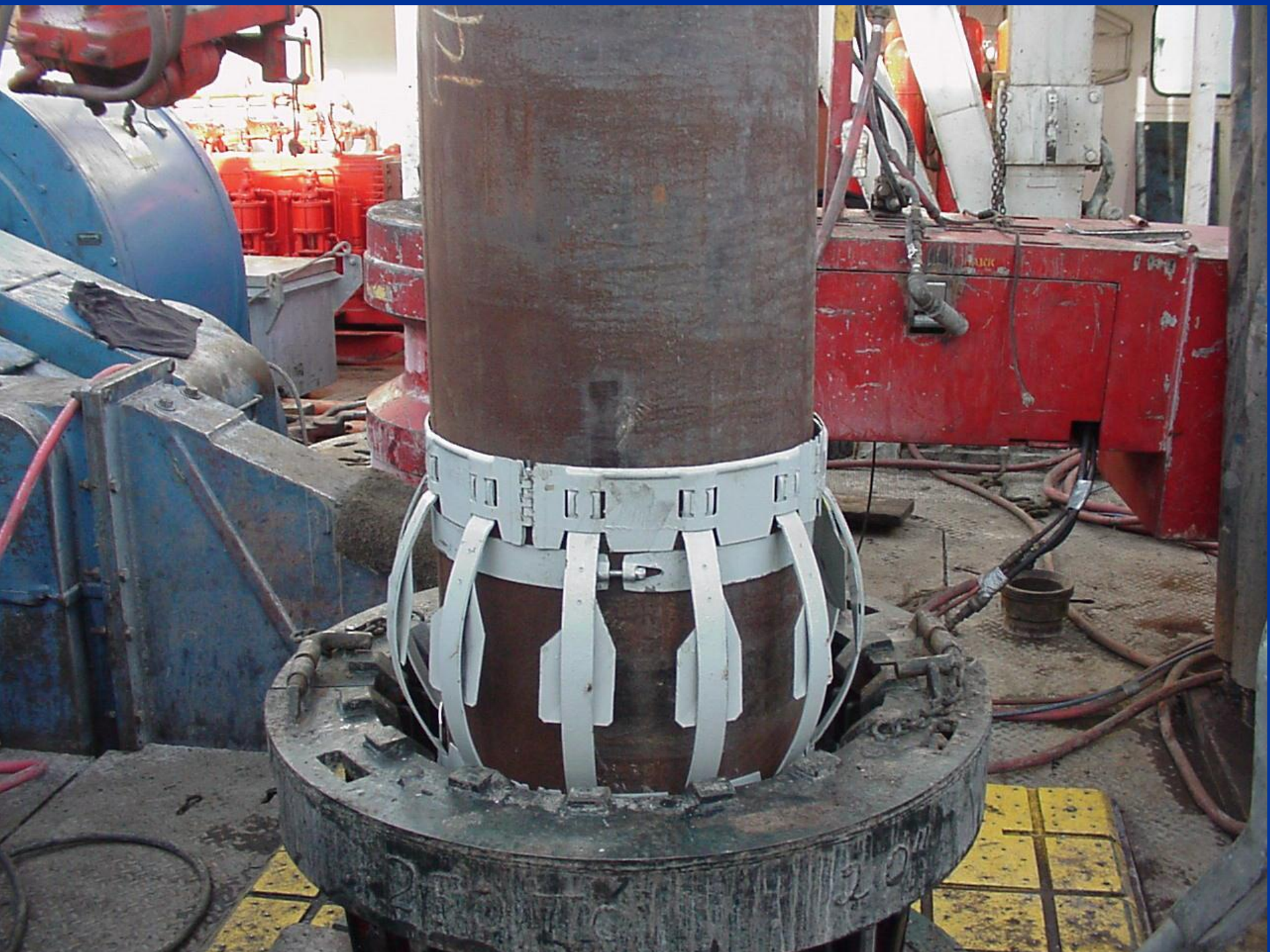
- Conducted during the permit application process
- Investigate issues that may be of concern during the public comment portion of the permit process
- Field verify information contained in the permit application
 - Area of review and well status



Pre-Operational Inspections

- Well logging
- Setting and cementing of surface casing
 - Circulation and cement returns
- Setting and cementing long string casing
- Injectivity testing and formation pressure tests
- Mechanical integrity tests

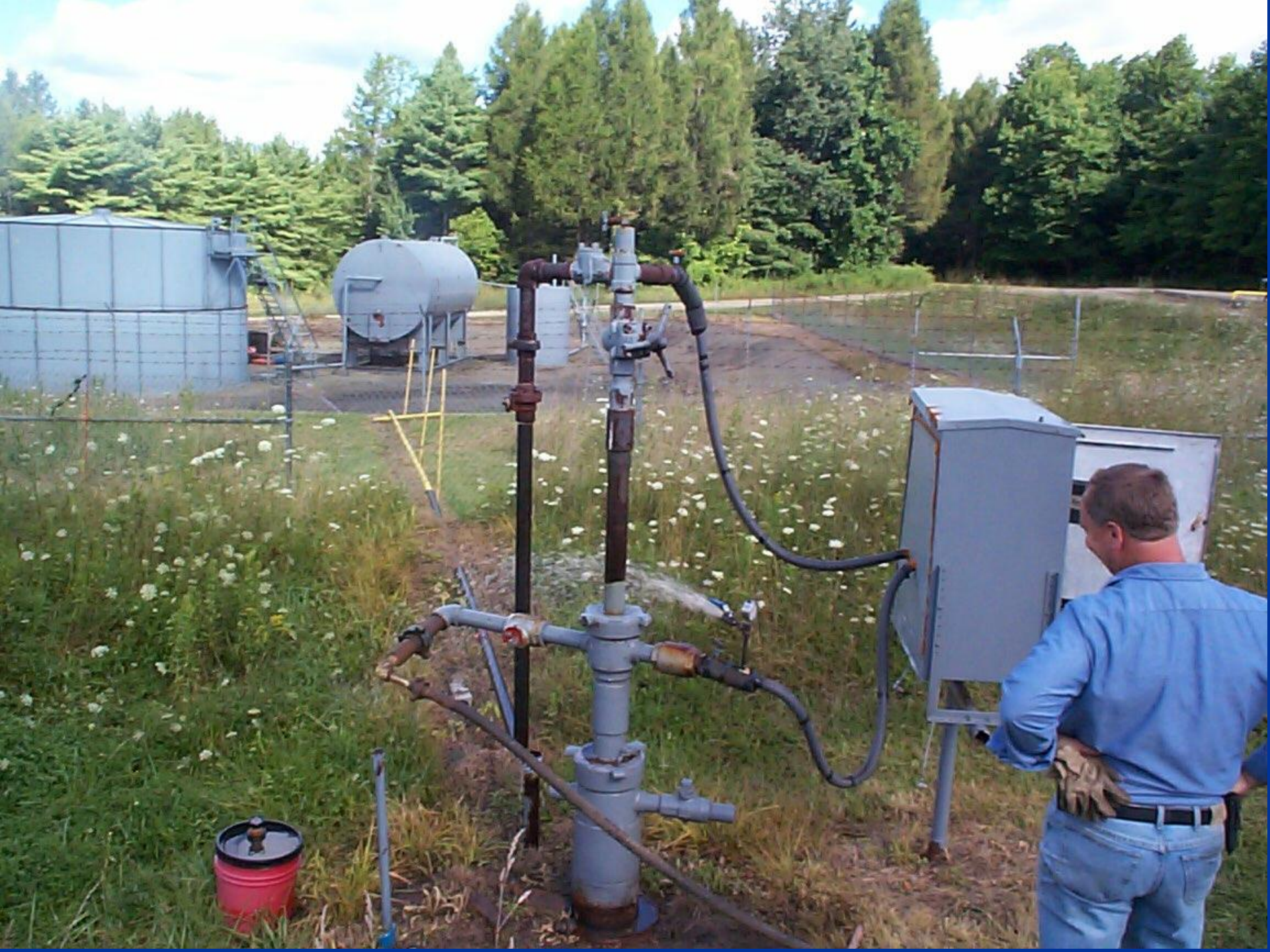






Mechanical Integrity Test Inspections

- Prior to authorizing injection for a new well
- At the conclusion of well workover
- Conducted on a scheduled basis
- Pressure test (most common test for permitted wells)
- Well logging to evaluate external mechanical integrity
- Rule authorized test procedure



Liquid Compressibility

- Compressibility of water is approximately 3 millionths volume change per psi.
- Volume of 4-1/2" x 2-3/8" annulus is .4226 gallons per Lineal Foot.
- 7120' to packer setting and test pressure of 1750 psi.
- $.000003 \times (7120 \times .4226) \times 1750$
- 15.8 gallons needed for MIT test.

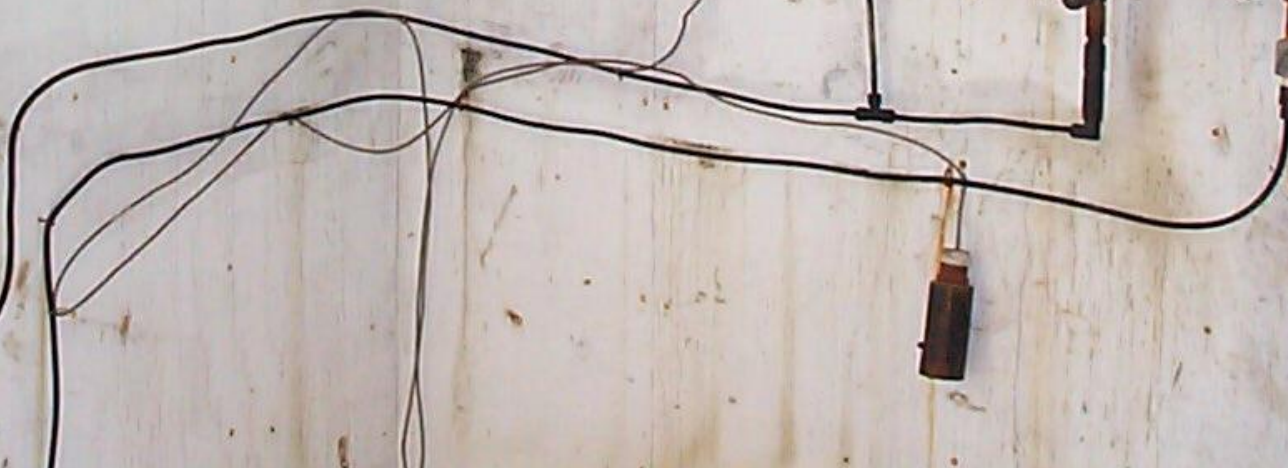


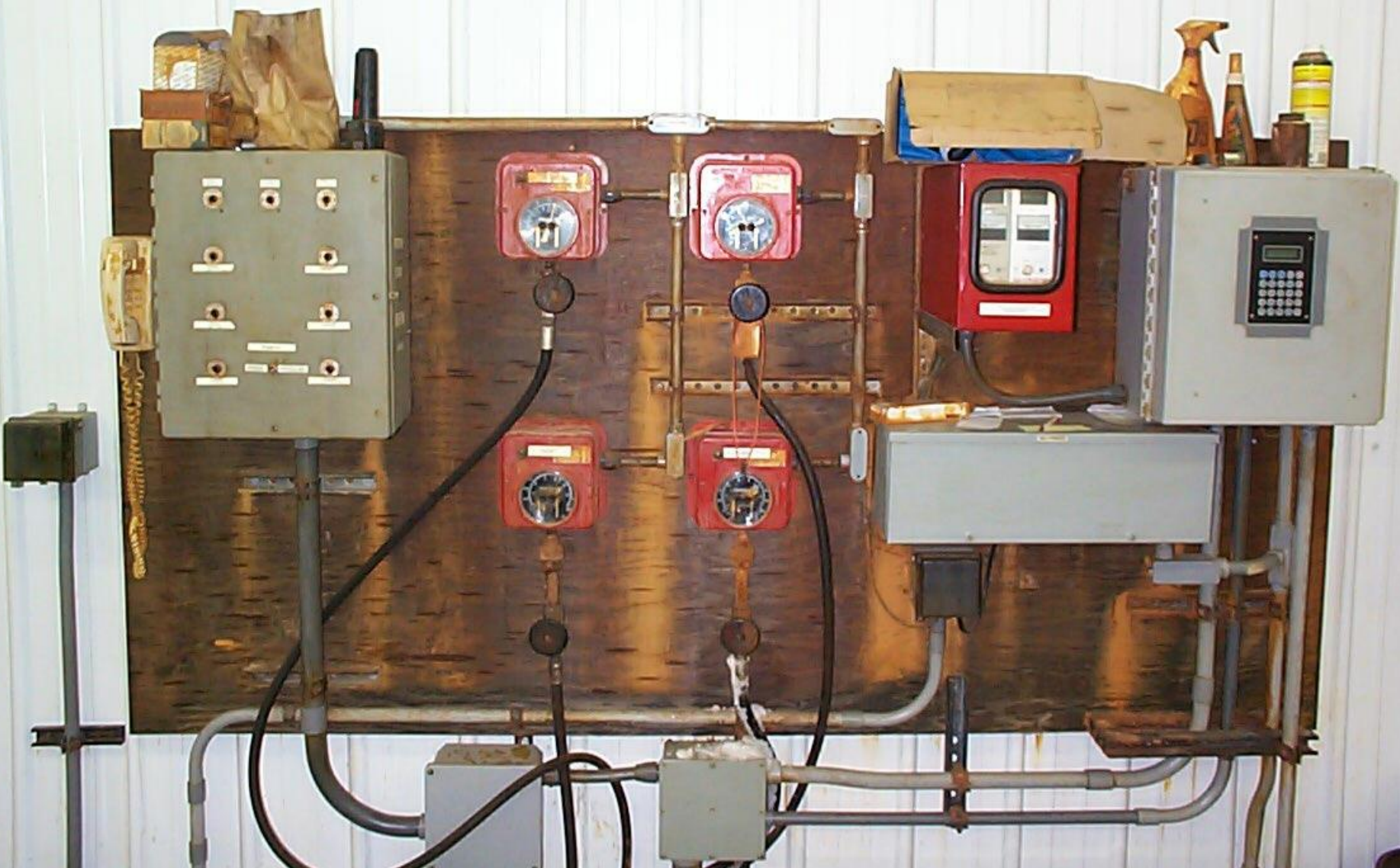




Routine, Operational or General Housekeeping

- Conduct on a regular basis
 - Determine the probability of a violation
 - Indicate problems that may be causing a violation
 - Assist in identifying problems that exist or have potential for developing
 - Update EPA or state records on the facility
 - Witness and document well rework





Shut-in Devices



Chart Recorders



Chart Recorders



Plugging and Abandonment

- Inspection is conducted to insure that closure is performed according to an approved plugging and abandonment plan
- Inspections include well preparation
 - Pulling of tubing, casing and packers
- Plug placement, quantity and quality of cement plug





Compliance and Enforcement

- Determine the existence of a violation
- Can be the result of a citizen complaint or emergency
- Provide basis for enforcement action
- Define type of violation, or provide data to assist in determining cause of violation
- If violation appears to be criminal, notify supervisor for possible referral to the Office of Criminal Enforcement

Criminal Case Selection Criteria

- Significant environmental harm (factors)
 - **Actual** harm is demonstrated by an illegal discharge, release or emission that has an identifiable and significant harmful impact on human health or the environment
 - The **threat** of significant harm
 - Failure to report an actual discharge, release or emission

Culpable Conduct

- History of repeated violations
- Deliberate misconduct resulting in violation
- Concealment of misconduct or falsification of required records
- Tampering with monitoring or control equipment
- Business operation of pollution-related activities without a permit, license, manifest or other required documentation

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MIT



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