

The Four T's of Spill Incident Prevention – Technical Analysis, Teamwork, Training, Tracking

John Candler, Patrick Tyczynski
M-I SWACO, a Schlumberger company



Spills

- Expensive
- Regulatory non compliance
- Degrade company reputation
- Degrade operational confidence



Spill Prevention

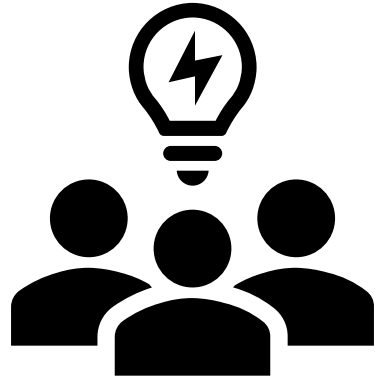
- Compliance
- Enhance operational confidence
- Community relationships



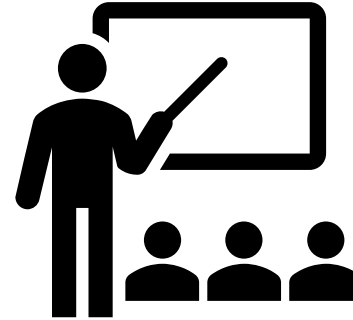
How to Prevent Spills



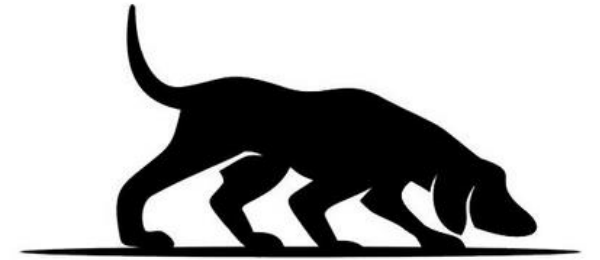
Technical
Analysis



Teamwork



Training



Tracking

Technical Analysis



Technical Analysis

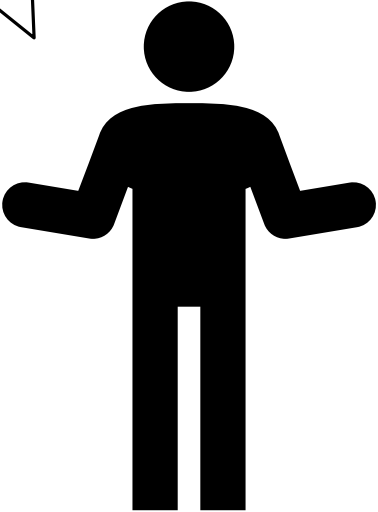
Teamwork

Training

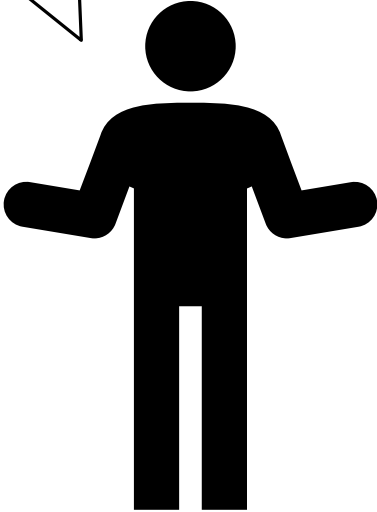
Tracking



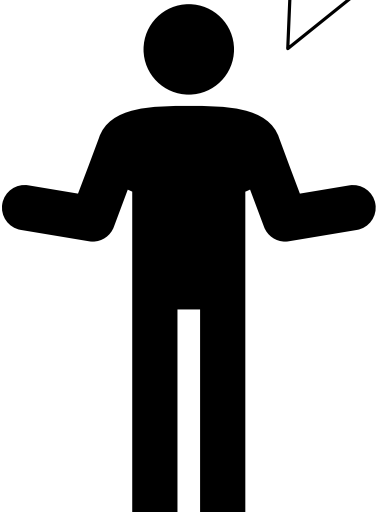
Lack of training



Procedures are wrong



Hose failures



Perceptions → Quantitative Analysis

Technical Analysis



Technical
Analysis

Teamwork

Training

Tracking

- Routine inspection of reported information for content and accuracy through data collection and analysis – monthly spreadsheet
- This serves as a basis to:
 - Further understand the nature and cause of the spill incident
 - Identify trends in materials spilled
 - Identify trends in types of operations involved
 - Identify trends in geographic spill incident occurrence

Benefits of Technical Analysis



Technical
Analysis

Teamwork

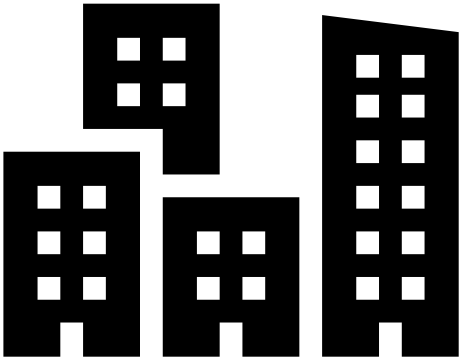
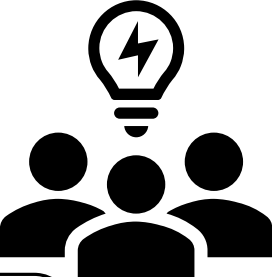
Training

Tracking

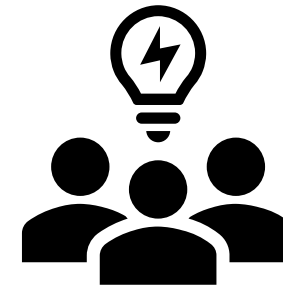
- The technical analysis provides data and trends on the major sources of spill incidents – focus the resources where they are needed
- Major sources can include:
 - Primary containment failure
 - Transfer procedures that did not work
 - Transfer overfills
 - Storage related spills
- The location and business operations are also included and categorized by function

Teamwork

Technical Analysis	Teamwork
Training	Tracking



Teamwork



Technical
Analysis

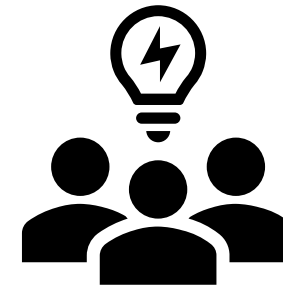
Teamwork

Training

Tracking

- Teamwork found through quarterly spill incident calls across geographies and business functions
- Provides routine evaluation of the three phases of a spill incident:
 - Before the spill incident
 - Review spill prevention plans, training, procedures
 - During the spill incident
 - Review personnel processes, equipment, response/mitigation
 - After the spill incident
 - Review reporting, clean up, action items

Benefits of Teamwork



Technical
Analysis

Teamwork

Training

Tracking

- The teamwork aspect and performance as a whole comes from the field operations and the cooperation and development of a spill incident prevention culture - engineering, operations, HSE, and management
- The ability of the entire operation to apply the general principles discussed on the calls/global meetings or referenced in the scorecards and then bring them into the field is what brings reductions in spill incidents and their severity

Training

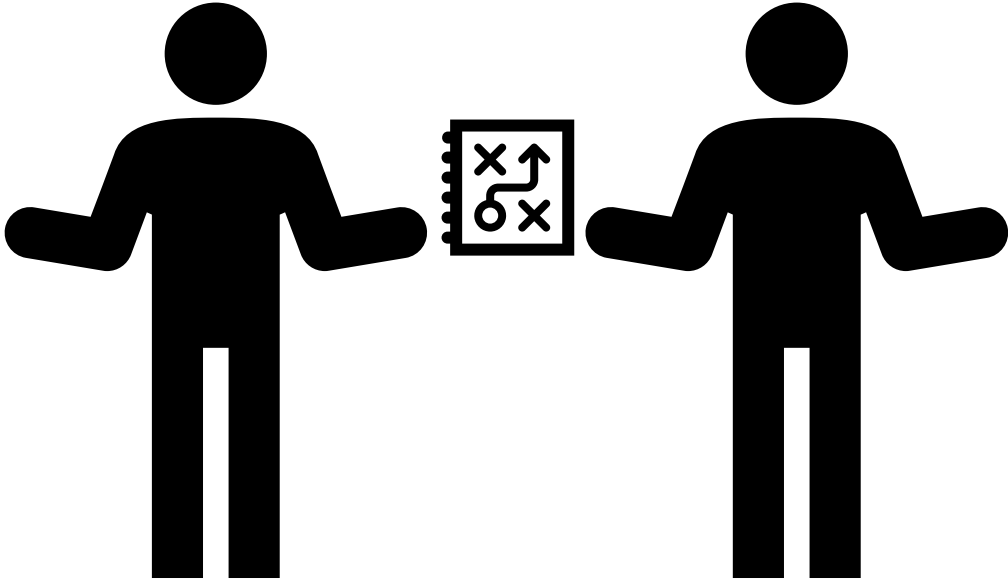


Technical
Analysis

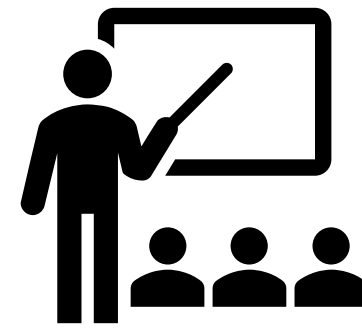
Teamwork

Training

Tracking



Training



Technical
Analysis

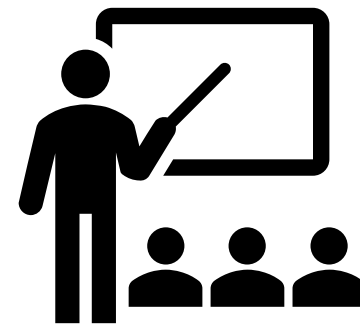
Teamwork

Training

Tracking

- Training a wider audience through global meetings allows for opportunities to review the results and analysis with a wider audience providing for a venue to:
 - Highlight specific programs and trainings
 - Recognize and encourage techniques
 - Grow connections between the organizational units

Benefits of Training



Technical
Analysis

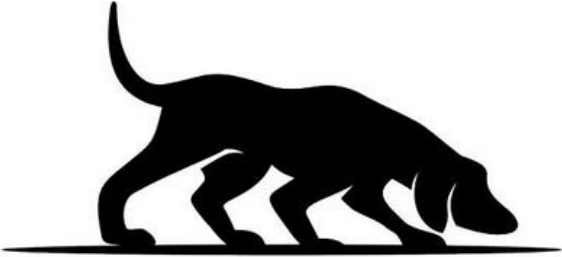
Teamwork

Training

Tracking

- Communication throughout the whole organization about successes and what we can do better
- Feedback from the field on opportunities to further develop spill incident prevention culture
- Technical analysis provides the data that allows for collective wisdom to focus resources on key issues that will drive down spill rates and severity

Tracking

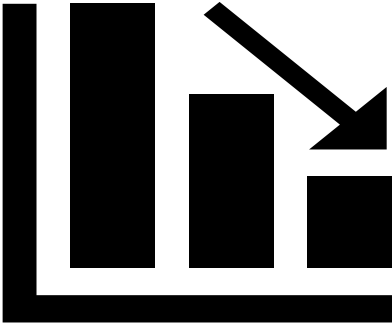


Technical
Analysis

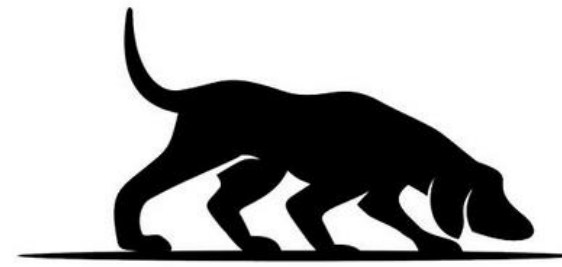
Teamwork

Training

Tracking



Tracking



Technical
Analysis

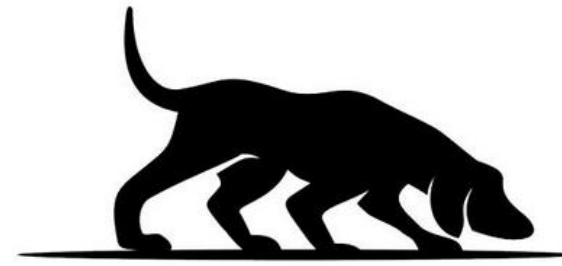
Teamwork

Training

Tracking

- The tracking of the global progress is conducted through monthly scorecards, allowing for:
 - Spill incidents and rates to be focused on alongside the safety metrics of TRIF and AARM
 - Details to be specified by organizational units and geographies
 - Assistance of third-party evaluations for external reporting

Benefits of Tracking



Technical
Analysis

Teamwork

Training

Tracking

- Ensure accuracy of reported information
- Continue to justify the programs that are in place, effective, and that the resources are allocated properly
- Continue to show that there is a willingness to make changes as necessary for continuous improvement

Overall Benefits

- Economics
- Operational
- Social License to Operate

