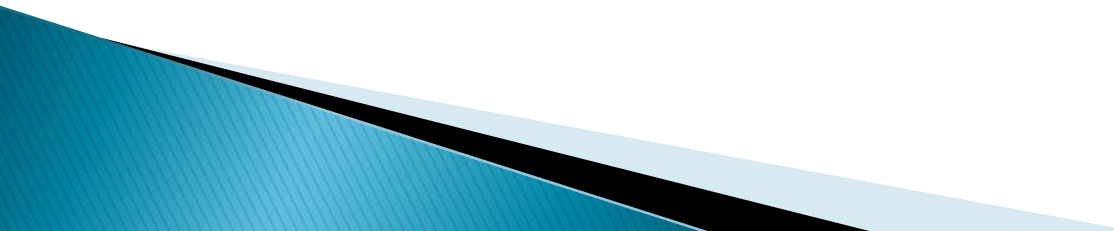


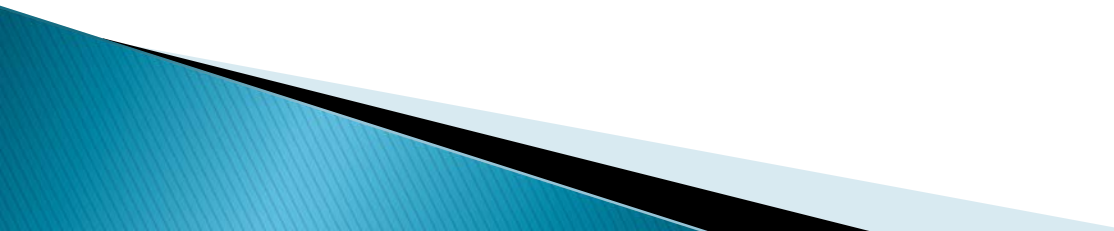
Oilfield Waste and Spill Remediation

L. David Glatt, P.E.
North Dakota Department of Health
Environmental Health Section
(701) 328-5150

Objective

- ▶ Keys to Success
 - ▶ Remediation Guidance
 - Produced Water or Brine Spill (9/2016)
 - Oil Discharges
 - ▶ Spill Prevention/Impact Minimization
 - ▶ Waste Recycling – Disposal
- 

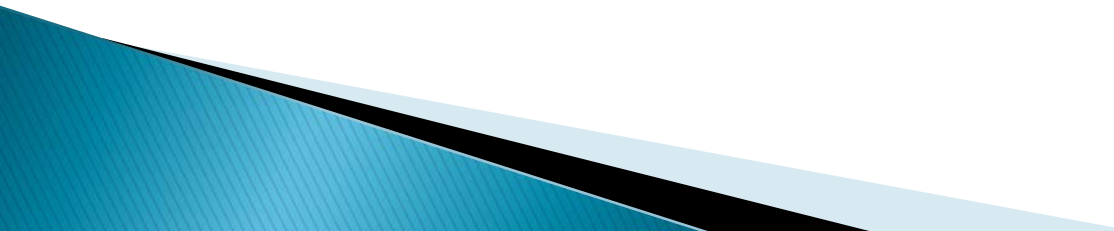
Key to Success

- ▶ Communication a “three way street”
 - Frequent, Timely and Honest
 - Willingness to Cooperate “Three sides to every story”
 - Characterize and identify the issues
 - ▶ Timely Action
 - ▶ Follow the Science– Guidance
 - ▶ Know your remediation options
- 

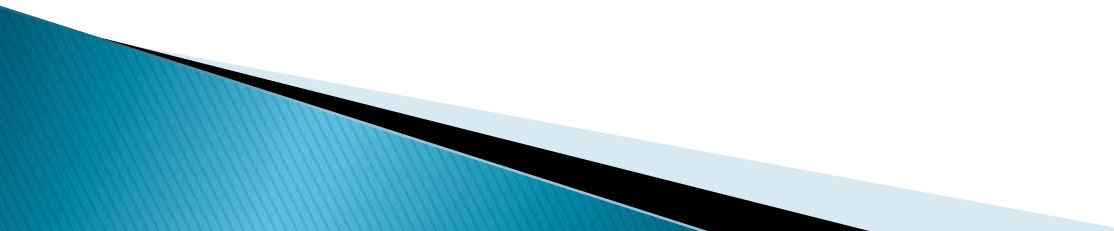


08.04.2011

Guidelines for the Assessment and Cleanup of Saltwater Releases (9/2016)

- ▶ Collaborative Effort– Varied Interests
 - ▶ Dynamic Document
- 

Guidelines

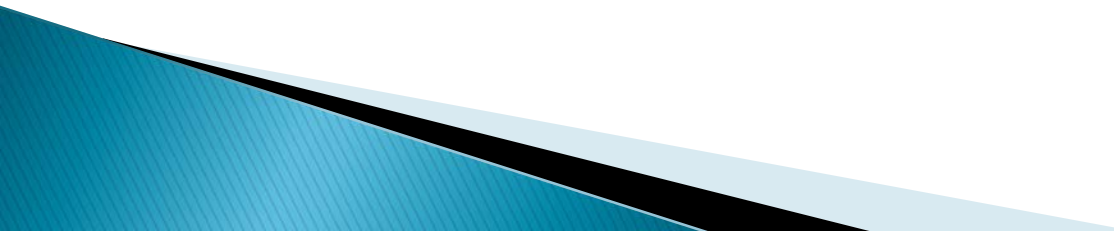
- ▶ Initial Response
 - ▶ Site Assessment
 - ▶ Evaluation for Potential Actions
 - ▶ Monitoring
 - ▶ Reporting
-
- ▶ Goal is to get to Pre Release Conditions
 - ▶ Department remediation goals may differ from landowner goals
- 



Oil Remediation Work Group

- ▶ Varied Interests
- ▶ Follow the Science
- ▶ What is an appropriate Clean Up Goal?

Pipeline Monitoring Workgroup

- ▶ Minimize frequency and Impact of Pipeline Releases
 - ▶ Early Detection – Improve Response Time
 - ▶ Identify Priority Areas –
 - Pipeline location near sensitive environments
 - Landslide areas
 - Multiple Pipelines in a small geographic region
 - Pipeline Materials
 - Monitoring –Early Detection Options
- 

Pipeline Monitoring Workgroup

- ▶ Operators Experience
- ▶ Workshop?

Solid Waste

▶ Recycling Options

- Soil and Drill Cuttings
- Produced Water
- Guidelines–Rules July 1, 2017

▶ TENORM

- License/Permit Requirements for:
 - Generators
 - Transporters
 - Landfills – Only if approved by Department after a public review/comment process