Montana Risk-Based Corrective Action (RBCA) Guidance for Petroleum Releases

Consultant's Day

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Tanks, Brownfields and Federal Facilities Bureau Chief

20 min max

Agenda

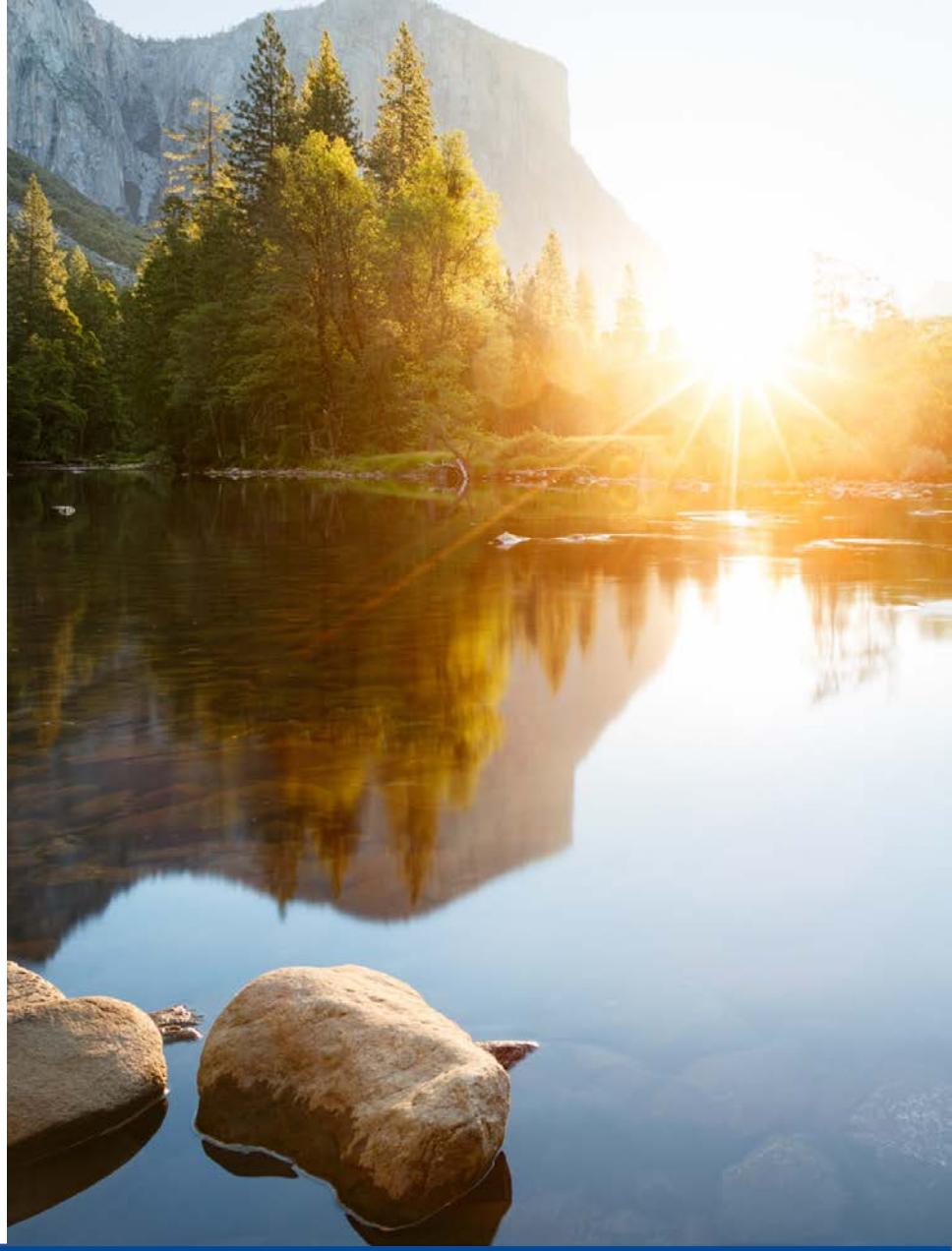
What is RBCA?

history

RBCA in Rule

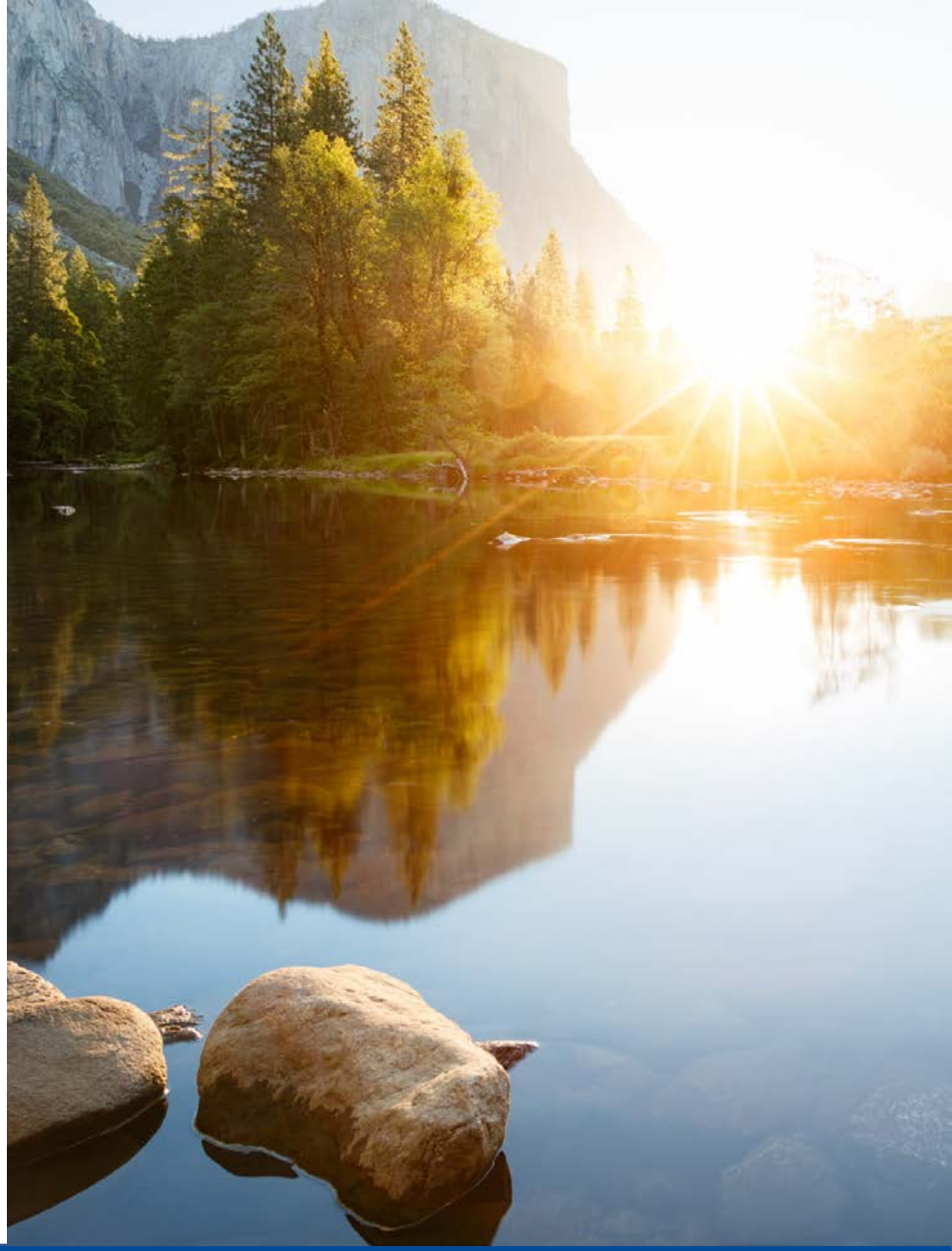
Why do we have to use it?

How is it used, by DEQ, by consultants?



What is RBCA?

Risk-**B**ased
Corrective
Action for
Petroleum
Releases



A Framework

Provides a consistent, defensible **process** for the assessment and response to a petroleum release

RBCA

Uses a tiered approach

that integrates site assessment and response actions with risk assessment

determines the need for remedial action tailored to site-specific conditions and risks

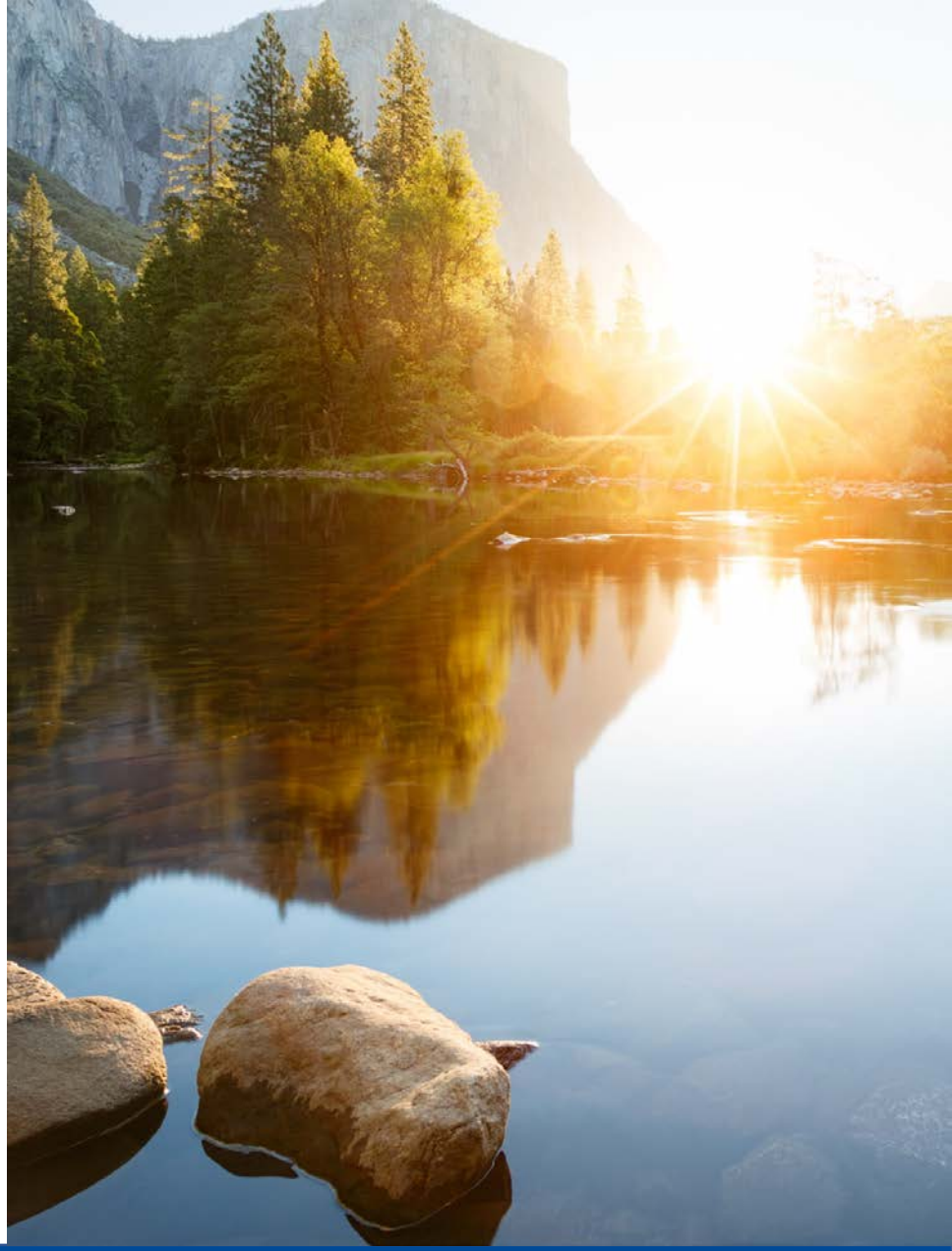
Begins with a simple Tier 1 analyses

and moves to more complex evaluations in Tier 2

and Tier 3, as appropriate.

Data is collected, as necessary for that Tier

Works with the Regulatory Framework of the Department of Environmental Quality

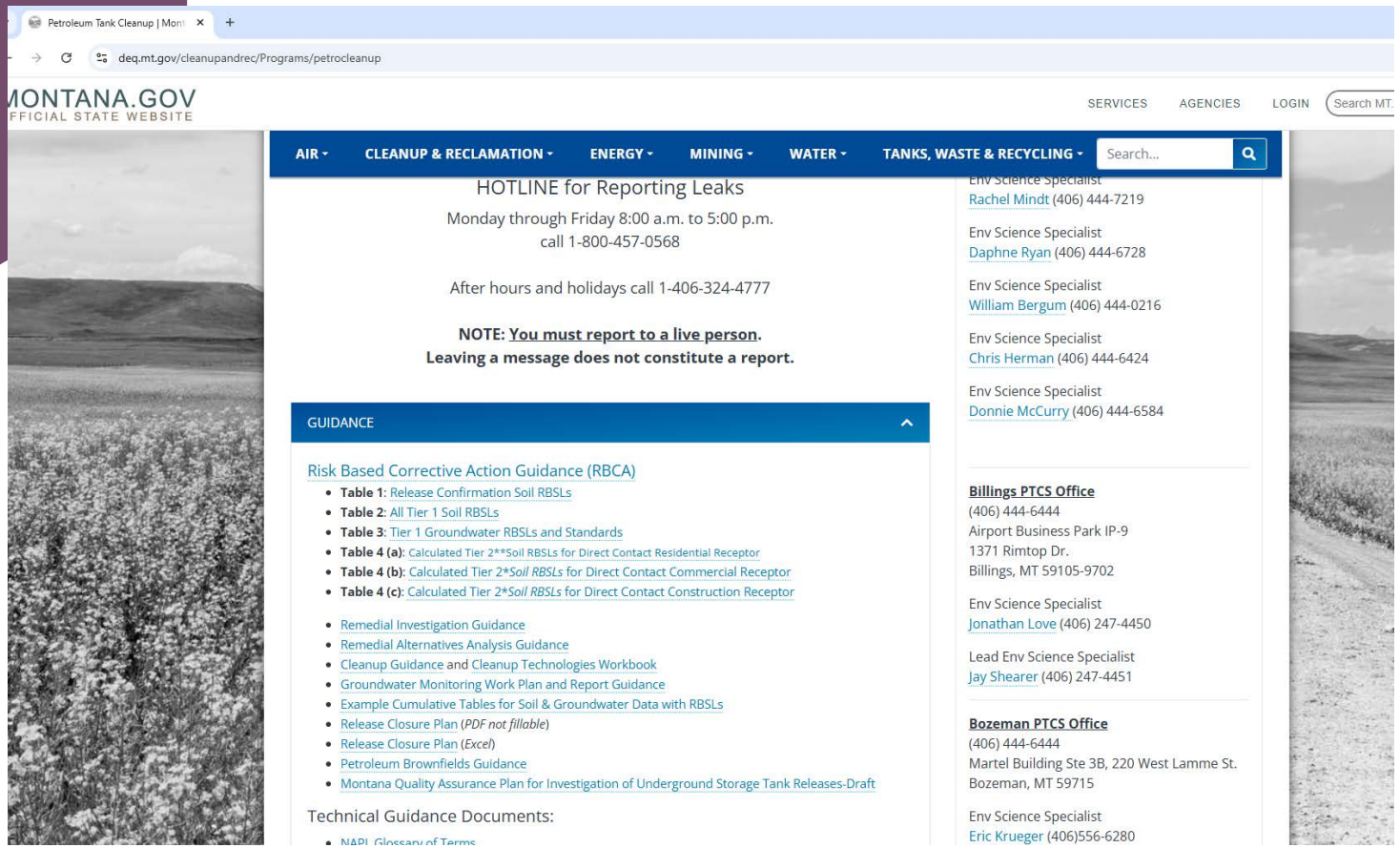


Examples of the DEQ's Technical Policy Decisions

- Statutes / Rules guiding release detection, investigation and cleanup
  - E.g., standards; remedial investigation/cleanup requirements in rule, closure requirements, etc
- Data Quality Objectives (QAP)
- Target risk levels, exposure assumptions, sample sizes
  - Change these outside of standard assumptions and ICs are needed.
- When and how to account for cumulative risk and additive effects
  - Fractions, soil vs. water..etc.

The Beauty of RBCA is that DEQ's technical policy decisions have been built into the RBCA framework

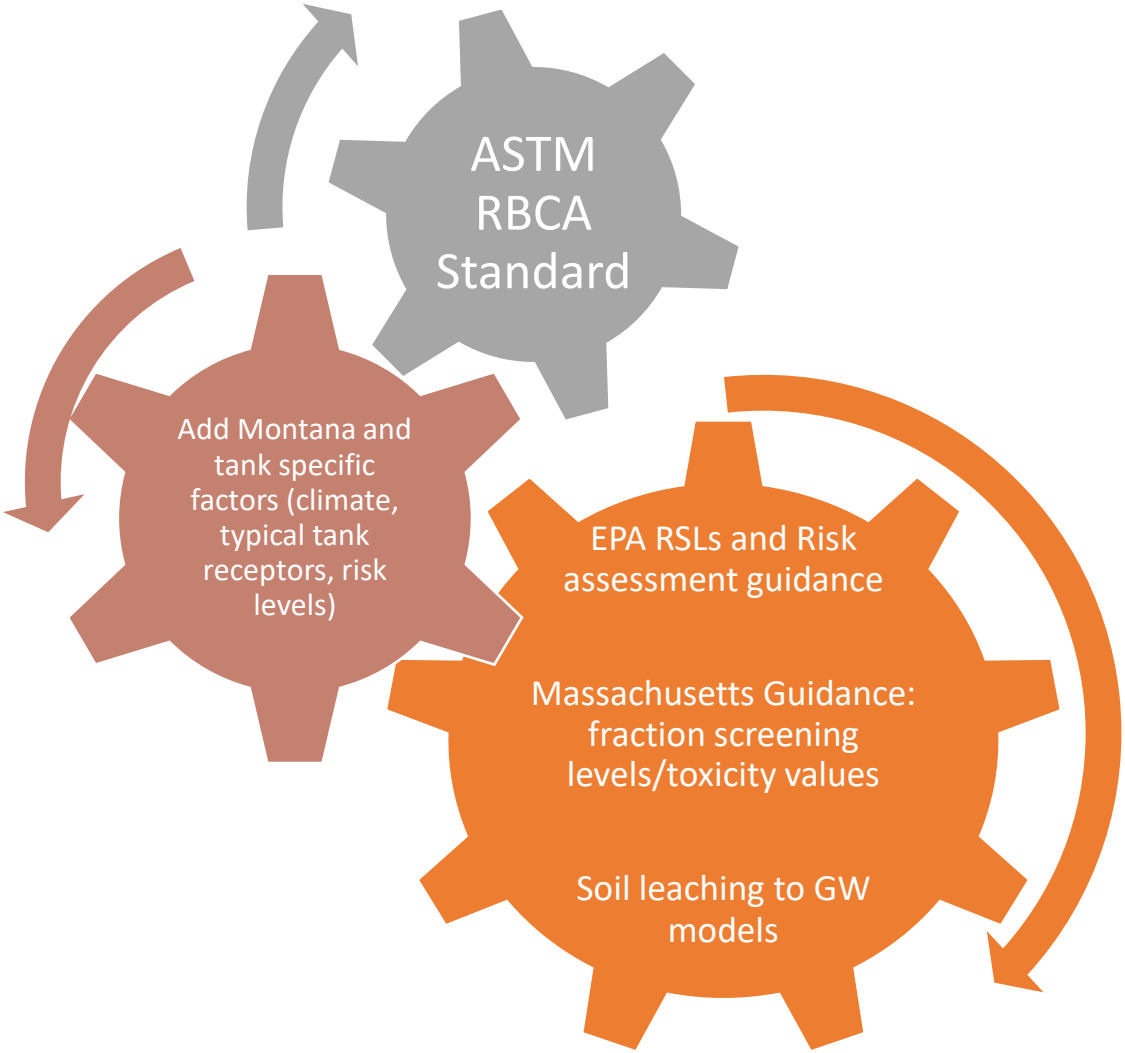
The RBCA guidance document can be found here:



RBCA History

- First MT RBCA draft final guidance document came out in 1998.
- Other states were implementing a risk-based closure approach.
- MT DEQ looked to other states as examples and decided to try to implement it here
  - Massachusetts was the template Mt chose.
- At the time, MT looked at BTEX and TPH. With the risk-based approach, contaminants were looked at in more detail, including fractions.
- Looked at environmental fate and transport.

What factors went into the Montana RBCA guidance?



RBCA is a guidance document that is referenced in rule.

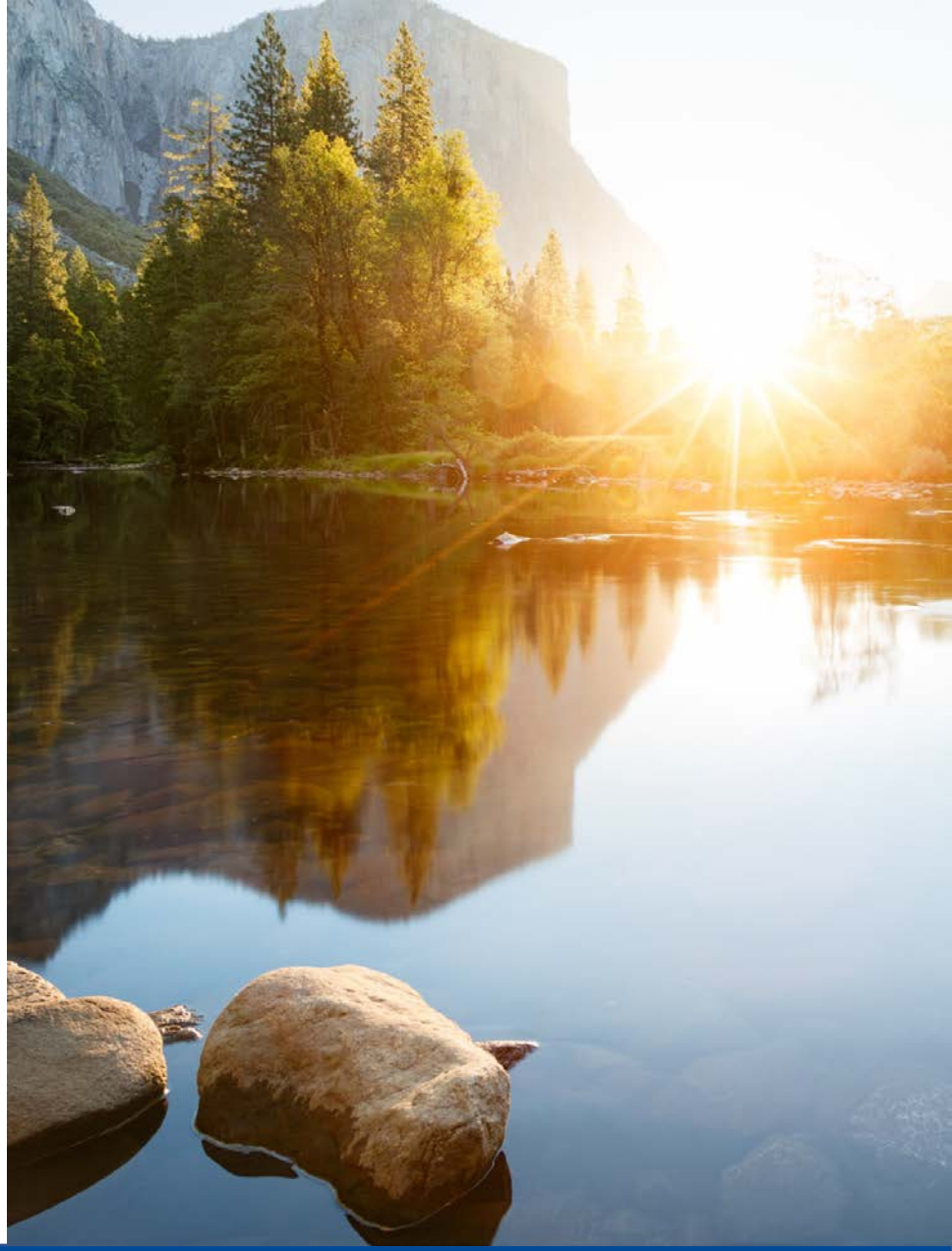
In Landfarms 17.50.1612 (1617-18)

In CECRA Remediation (17.55.109)

In Underground Storage Tanks

- 17.56.506 Reporting of Confirmed Releases
- 17.56.507 Adoption by Reference

- 15.56.607 Release Categorization
- 17.56.608- Adoption by Reference



Tanks

17.56.506 Reporting of Confirmed Releases

17.56.507 Adoption by Reference

Chapter 17.56: Underground Storage Tanks Petroleum and Chemical Substances
Subchapter 5: Release Reporting, Investigation, and Confirmation

17.56.506 REPORTING OF CONFIRMED RELEASES

(1) Upon confirmation of a release in accordance with ARM 17.56.504, or after a release from the PST or UST system is identified in any other manner, owners and operators, any person who installs or removes an UST, or who performs subsurface investigations for the presence of regulated substances, and any person who performs a tank tightness or line tightness test pursuant to ARM 17.56.407 or 17.56.408, must report releases to the department within the specified timeframes and in the following manner:

(a) Except as provided in (1)(b), all confirmed releases must be reported to a person within the department or to the 24-hour Disaster and Emergency Services duty officer available at (406) 324-4777 within 24 hours of confirming the release. Messages left on answering machines, received by facsimile, e-mail, voice mail, or other messaging device are not adequate 24-hour notice. For further assistance, the department's release reporting hotline may be reached at 1 (800) 457-0568.

(b) When a release is confirmed from laboratory analysis of samples collected from a site, the release must be reported to the department by a method that ensures the department receives the information within seven days of release confirmation. The date of release confirmation, for purposes of this rule, is the date the owner, operator, installer, remover, or person who performs subsurface investigations for the presence of regulated substances received notification of the sample results from the laboratory. Laboratory analytical results that exceed the following values confirm that a release has occurred:

(i) risk-based screening levels (RBSLs) established for petroleum contaminants in surface soil at UST sites, published in the first numeric column of the Tier 1 Surface Soil RBSL Table (Table 1) of Montana Risk-based Corrective Action Guidance for Petroleum Releases (RBCA) for petroleum compounds and mixtures in surface and subsurface soil;

(ii) regional screening levels published in the United States Environmental Protection Agency, Regional Screening Level (RSL) Table for contaminants in soil that are not listed in RBCA; or

(iii) contaminant levels in water that exceed background levels in the receiving water.

Chapter 17.56: Underground Storage Tanks Petroleum and Chemical Substances
Subchapter 5: Release Reporting, Investigation, and Confirmation

17.56.507 ADOPTION BY REFERENCE

(1) For purposes of this subchapter, the department adopts and incorporates by reference:(a) Department Circular DEQ-7, "Montana Numeric Water Quality Standards" (June 2019 edition);

(b) Montana Risk-Based Corrective Action Guidance for Petroleum Releases (RBCA) (February 2024);

(c) U.S. Environmental Protection Agency, Regional Screening Level (RSL) Tables (November 2023); and

(d) Reportable Quantities for Hazardous Substances under section 102(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) published at 40 CFR Part 302 (2023).

(2) All references in this subchapter to the documents incorporated by reference in this rule are to the edition specified in this rule.

(3) Copies of the documents incorporated by reference in this rule may be obtained from the Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901.

Tanks

15.56.607 Release Categorization

17.56.608- Adoption by Reference

17.56.607 RELEASE CATEGORIZATION

(4) The department may categorize a release as resolved if the department has determined that all cleanup requirements have been met and that conditions at the site ensure present and long-term protection of human health, safety, and the environment. The following requirements must also be met before a release may be categorized as resolved:

(a) documented investigations, conducted in accordance with ARM 17.56.604, identify the extent or absence of contamination in the soil, ground water, surface water, and other environmental media relevant to the release;

(b) risks to human health, safety and the environment from residual contamination at the site have been evaluated using methods listed in (4)(b)(i) or (ii) and the evaluation indicates that unacceptable risks do not exist and are not expected to exist in the future. The department considers a total hazard index that does not exceed 1.0 for noncarcinogenic risks, and a total cancer risk that does not exceed 1 x 10^{-5}, to be an acceptable risk level. Owners or operators, or other persons may, with department approval, use either of the following methods to evaluate risks from a release:

(i) Tier 1 evaluation using Montana Risk-based Correction Action Guidance for Petroleum Releases (RBCA) for evaluation of risks to human health, safety and the environment associated with surface and subsurface soil and ground water contamination; or

(ii) a site-specific risk assessment method approved by the department for evaluation of risks to human health, safety, and the environment associated with contamination, or likely contamination, that demonstrates to the department's satisfaction that current and potential future exposure pathways are incomplete;

(c) all appropriate corrective actions associated with the release and required by the department, including compliance monitoring and confirmatory sampling, have been completed;

(d) all free product has been removed to the maximum extent practicable; and

(e) all applicable environmental laws associated with the release have been met. These applicable requirements may include, but are not limited to, air quality, drinking water and monitoring well requirements, solid waste management requirements, hazardous waste management requirements, national pollutant discharge elimination system (NPDES) and Montana pollutant discharge elimination system (MPDES) requirements, underground injection controls and standards, UST requirements, noxious weed control, ground water and surface water quality standards, nondegradation requirements, storm water requirements, and requirements for the protection of endangered species, historic sites, wetlands and floodplains.

17.56.608 ADOPTION BY REFERENCE

(1) For purposes of this subchapter, the department adopts and incorporates by reference:

(a) Department Circular DEQ-7, "Montana Numeric Water Quality Standards" (June 2019 edition);

(b) Drinking Water Maximum Contaminant Levels, published at 40 CFR 141.11, 40 CFR 141.61, 40 CFR 141.62, 40 CFR 141.63, 40 CFR 141.64, 40 CFR 141.65, and 40 CFR 141.66 (2023);

(c) Montana Risk-Based Corrective Action Guidance for Petroleum Releases (RBCA) (February 2024); and

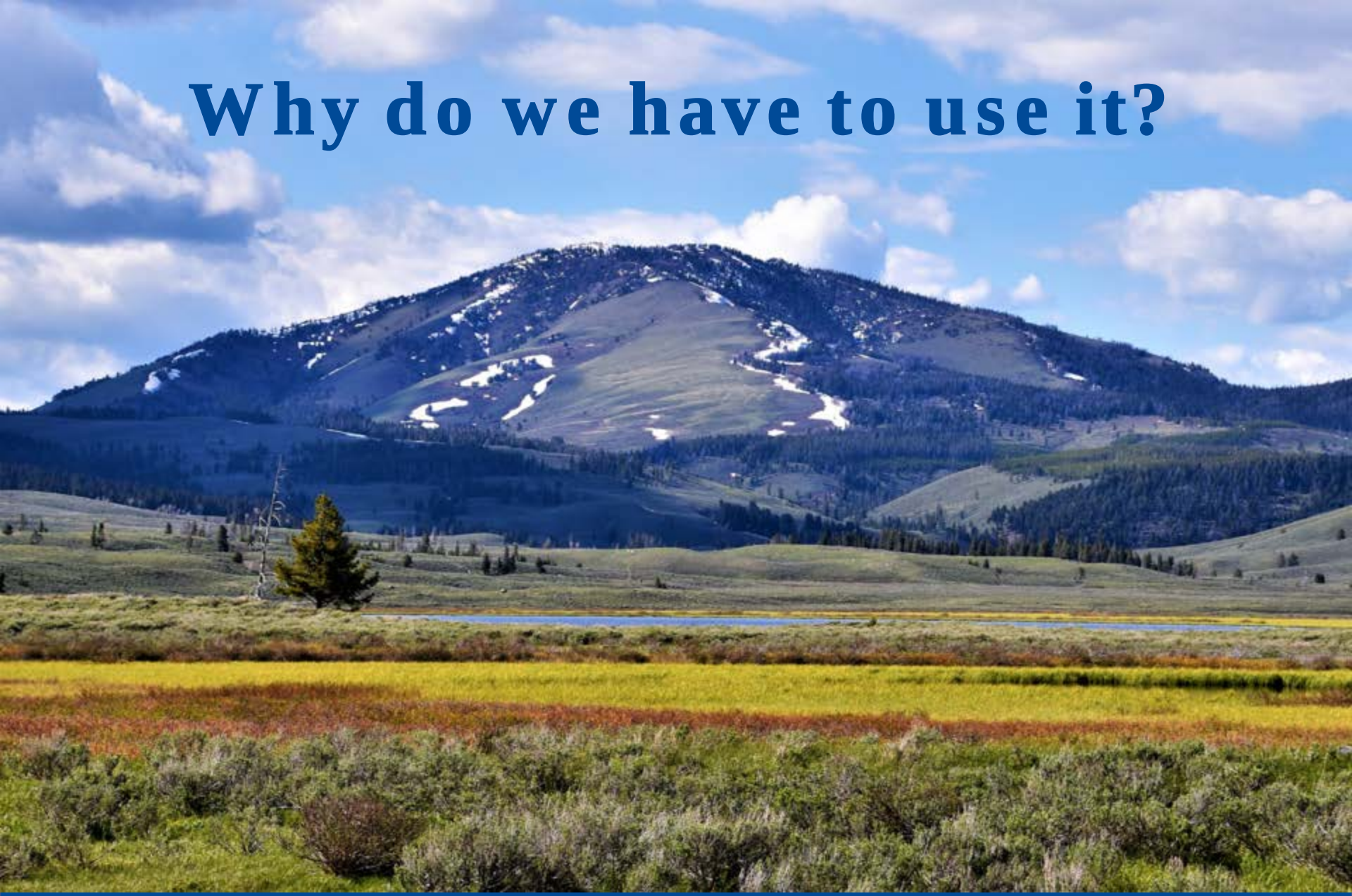
(d) U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response Directive 9200.4-17P, "Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites" (April 1999).

(2) All references in this subchapter to the documents incorporated by reference in this rule are to the edition specified in this rule.

(3) Copies of the documents incorporated by reference in this rule may be obtained from the Department of Environmental Quality, Remediation Division, P.O. Box 200901, Helena, MT 59620- 0901.

Authorizing statute(s): 75-11-319, 75-11-505, MCA Implementing statute(s): 75-11-309, 75-11-505, MCA

Why do we have to use it?



You have to use it for release confirmation (Tier 1, Table 1, column 1)

For Release closure, you have to use a risk assessment method approved by the department. RBCA encompasses the Department's Risk Assessment Requirements

How is it used, by DEQ, by consultants?

DEQ uses it to clearly convey DEQ's approved risk assessment process for contaminated sites.	Allows a simplified to risk-based approach to address a release (don't need a risk assessor)
• Don't have to piecemeal DEQ's policies/regulations to figure out a defensible path to closure	• Risk Assessment consistency across programs • Adherence to statute (water standards)

RBCA current and future considerations

DEQ is continuing to review the new ASTM E50.04 standard on Corrective Action and E50 on Environmental Assessment, Risk Management and Corrective Action "moving sites to closure approach (MStC)"

DEQ will review the default leaching calculations/assumptions in RBCA (next 3 years)

Daphne will walk you through the RBCA Process