Corrections made to the September 2009 Versions of RBCA

The edits listed below were made to September 2009 version of Montana Tier 1 Risk-Based Corrective Action Guidance for Petroleum Releases (RBCA). These edits are necessary because some portions of text in the original document did not reflect the fact that the 2009 version eliminated numerical ceiling concentrations for total gasoline range and diesel range fractions in soil that were present in the 2007 version, and replaced them with narrative conditions that affect beneficial use.

The edits are:

1. The following text was added to the Executive Summary on Page vii:

Additional Changes

> Four sections in this version contain minor edits from the original September 2009 version of RBCA. These edits are not substantive and update language that did not accurately explain the change made in replacing the numerical ceiling concentrations for total gasoline range and diesel range fractions in soil with narrative conditions that affect beneficial use. These edits made to pages 10, 14, 15, and 16 are discussed in detail on DEQ's Internet web page.

2. The following text was added as the first paragraph to the Odors as a Significant Risk to Public Welfare/Nuisance Condition section on Page 10.

> Previous versions of Montana Tier 1 Risk-Based Corrective Action Guidance for Petroleum Releases included numerical ceiling concentrations for total gasoline range and diesel range fractions in soil to protect public welfare. This version addresses public welfare and nuisance condition based on site-specific considerations rather than a numerical concentration for soil. Numerical ceiling concentrations are still included for total purgeable hydrocarbons (TPH) and total extractable hydrocarbons (TEH) in groundwater, as depicted in footnotes for Table 3.

3. The first paragraph of the Development of Tier 1 Lookup Tables starting on Page 14 was edited as follows:

> DEQ calculated Tier 1 RBSLs for exposure pathways commonly associated with petroleum releases. RBSLs for surface soil were calculated for the soil leaching to groundwater pathway, and for the direct-contact pathway assuming residential and commercial land use. RBSLs for subsurface soil were calculated for the soil leaching to groundwater pathway, and for the direct contact pathway to account for exposure of receptors during any excavation/construction at a site. ~~Additionally, RBSLs for non-target COC fractions in soil include beneficial use (aesthetic) considerations.~~ For each of the three distance to groundwater categories in Tables 1 and 2, the RBSLs DEQ published reflect the lowest COC

concentration calculated for ~~any~~ either of the ~~three~~ two Tier 1 exposure scenarios (i.e., for the soil leaching to groundwater pathway~~,~~ or through direct contact~~, or based on beneficial use considerations~~). Appendix C is a comprehensive soil RBSL table presenting the RBSLs calculated for both direct contact~~,~~ and leaching to groundwater~~, and beneficial use considerations~~.

4. The fourth paragraph of the Derivation of RBSLs section on Page 15 was edited as follows:

Soil RBSLs were calculated for each petroleum fraction using the chemical fate and transport model used for the target compounds. These soil RBSLs are designed to be protective of groundwater below releases, so that contaminants leaching from contaminated soil will not cause groundwater to exceed groundwater RBSLs.~~ Ceiling concentrations were also developed to assure that total concentrations of all non-target COCs do not interfere with the beneficial uses of the soil or groundwater.~~

5. The first paragraph of the Models Used to Generate Tier 1 RBSLs section on Page 16 was edited as follows:

DEQ staff calculated Tier 1 RBSLs for the soil leaching to groundwater pathway using the "VS2DT Solute Transport in Variably Saturated Porous Media" model (United States Geological Survey), combined with the "Hydrologic Evaluation of Landfill Performance" (HELP) model, which was used to estimate water infiltration rates. Direct contact RBSLs were calculated using equations developed by the United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection. The specific assumptions used in DEQ's Tier 1 soil leaching to groundwater models are discussed in Appendix D. The assumptions used in the direct contact modeling, including those associated with the fraction-surrogate approach, are discussed in Appendix E.~~ Information regarding the beneficial use criteria is also provided in Appendix E.~~ Since Tier 1 RBSLs are intended for use at a variety of releases throughout the state, the assumptions of Tier 1 provide for a wide margin of safety, and are therefore conservative.