

## MRBCA LABORATORY REQUIREMENTS

### I. REQUIREMENTS FOR ALL ANALYSES

- A. Percent moisture determinations must be performed on all soil samples using either the ASTM oven drying method or the Karl Fisher method.
- B. Method 5035 must be used for soil sample collection and analysis when Volatile Organic Compounds are to be analyzed.
- C. Appropriate standards must be analyzed by the instrumental conditions of Method 8260B to allow the laboratory to complete the Gasoline Range Organics (GRO) quantitations and Method 8270C to complete the Diesel Range Organics (DRO) and Oil Range Organics (ORO) quantitations.
- D. Specific quantitation ranges for the GRO, DRO, and ORO determinations are defined in Table F-1 of the guidance document *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks*, ~~October 2003~~[January 1, 2013](#)~~October 17, 2013~~. The quantitation ranges are C6 through C10 for GRO, C10 through C21 for DRO, and C21 through C35 for ORO.

### II. ADDITIONAL REQUIREMENTS FOR SOURCE DETERMINATION

- A. At the direction of MDNR, in addition to the retention time fraction determination, **additional whole fraction standards** must be analyzed with either GC/MS or GC analyses to allow for both qualitative and quantitative identification of the specific type of petroleum product present. Additional standards include: gasoline, #1-#5 diesel, mineral spirits, kerosene, JP4, jet fuel, motor oil, and hydraulic fluid.
- B. Quantitation must be accomplished by summing areas of all compounds from the retention time window of each standard that include the fraction pattern of each petroleum product.
- C. Results must be reported as ### µg/L as gasoline, ### µg/L as diesel, etc.

### III. REPORTING REQUIREMENTS

- A. All soil results must be reported as dry weights and clearly identified as such.
- B. The method of moisture determination must be clearly identified and reported along with the actual percent moisture result.
- C. Source determination results must be reported as indicated in II.C. above.

- D. All other results must be reported as specified in the appropriate analytical method.