

6.0 SUMMARY AND CONCLUSIONS

The first step in the risk evaluation process is to compare the analytical results for the various media tested to the appropriate MRBCA lowest default target levels (LDTL) (MDNR 2006b). The objective of the initial review is to determine if any concentration identified could cause a potential risk to potential receptors. Because the LDTLs may include exposure pathways not relevant to the subject property, such as contaminants leaching from soil and migrating to groundwater, the next step in the risk evaluation process is to compare the contaminant levels to more appropriate screening levels. The analytical results were compared to MRBCA Tier 1 RBTLs for residential and non-residential land use for Soil Type 3 (clayey) based on the soil classification analysis.

Pesticides, RCRA metals, and SVOCs were detected in the surface soil samples. All of pesticide and SVOC detections were well below the MRBCA Tier I RBTLs for both the residential and non-residential land use for Soil Type 3 (clayey) surficial soil for the most conservative exposure pathway. Because the detected concentrations of pesticides and SVOCs in the surface soil samples were below Tier 1 RBTLs, they currently pose limited threat to human health.

The only RCRA metal found to exceed the MRBCA Tier I RBTL was arsenic. Arsenic was found at concentrations greater than the MRBCA Tier I RBTL for residential land use for Soil Type 3 (clayey) surficial soil for ingestion, inhalation (vapor emissions and particulates), and dermal contact. However, according to the USGS Mineral Resources On-Line Spatial Data, the mean concentration of arsenic in Jackson County, Missouri is 16.6 mg/kg with a standard deviation of 3.02 (USGS 2010). The concentrations of arsenic found on the subject property are below the mean arsenic concentrations for the County and appear to be consistent with background concentrations.

A low concentration of acetone was detected in the subsurface soil sample SB-02 collected from 4 to 8 feet bgs. Acetone was also detected in the laboratory-prepared trip blank; therefore, acetone is likely associated with laboratory contamination. RCRA metals were detected in all of the subsurface soil samples collected from the subject property. All of RCRA metal detections were well below the MRBCA Tier I RBTLs for both the residential and non-residential land use for Soil Type 3 (clayey) subsurface soils; therefore, those metals currently pose limited threat to human health.

Groundwater was collected from a perched aquifer at the sample location GW-01. One SVOC and several total and dissolved RCRA metals were detected in the groundwater sample below their respective MRBCA Tier I RBTLs for both the residential and non-residential land use for Soil Type 3 (clayey) groundwater based on indoor inhalation of vapor emissions and dermal contact. Because the detected concentrations of SVOCs

and RCRA metals in the groundwater sample were below Tier 1 RBTLs, they currently pose limited threat to human health.

Based on sampling conducted during this Phase II ESA, the soil and groundwater do not appear to have been affected by historical activities on the subject property or adjacent properties.