

# **OTTER CREEK MINE**

## **EXHIBIT 313F: SOIL TESTING PLAN**

---

### **1.0 Introduction**

This exhibit addresses the soil testing and monitoring requirements of ARM 17.4 313(1)(g)(iv), ARM 17.4 313(1)(g)(xi), ARM 17.24.702(4)(a) and ARM 17.24.723. The soil monitoring plan is designed to document quality of graded spoils and identify any areas requiring supplemental stored overburden fill prior to soil redistribution and the specific quality parameters of redistributed soil.

### **2.0 Monitoring of Graded Spoils**

Prior to soil redistribution, graded spoil will be sampled at a density of one sample for each five acre block. Spoil samples will be collected to a depth of three feet, and analyzed for texture, pH, electrical conductivity (EC), percent saturation, and sodium adsorption ratio (SAR) to meet the Montana Department of Environmental Quality (MDEQ) suitability requirements. For any five acre block sample showing an unsuitable parameters, that parameter will be resampled to determine the extent of the unsuitable zone by equally spacing nine additional sample holes in that five acre block. A riffle splitter or equivalent method will be used to composite the nine sample holes. If the five acre panel still tests as unsuitable, the unsuitable material will be removed and replaced or it will be capped with other more suitable material and an additional sample will be analyzed prior to soil redistribution. If the sampled parameter is marginal, revegetation monitoring may be utilized along with soil augmentation if necessary. Spoil sampling results will be compiled and reported annually.

### **3.0 Pre-Salvage Soil Monitoring**

Prior to salvage, soils will be sampled to assess suitability. Sampling density will be one sample for each five acres. Each topsoil and subsoil sample will be analyzed for texture, pH, EC and SAR to meet MDEQ suitability requirements listed in Table 5 of Baseline Report 304L – Soils. If problem soils are identified, the results will be provided to the department along with proposed salvage plan adjustments. Results will be compiled and reported annually.

#### **4.0 Monitoring of Replaced Soil**

Soil depth stakes will be utilized during soil redistribution operations to ensure proper placement depths. The target soil depth will vary based on the reclamation objective of the area and will be within a range of 20-40 inches.

#### **5.0 ARM 17.24.723 Monitoring**

- (1) Otter Creek Coal, LLC (OCC) will conduct soils monitoring under plans described herein.
- (2) The data and a narrative interpretation thereof will be submitted annually. Detail of the narrative interpretation will be determined in consultation with the department.
- (3) If the data indicate that corrective measures are necessary, the OCC will implement corrective measures to comply with permit requirements. Any problem materials will be mitigated utilizing MDEQ approved methods.
- (4) OCC may request MDEQ's approval to revise or discontinue a monitoring program with proper documentation that adverse impacts have not occurred and are unlikely to occur and mitigation measures are effective.