

Petroleum Contaminated Soil Sampling Plan

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Excavated soils must be characterized prior to treatment or disposal in order to demonstrate that the selected treatment or disposal method is both necessary and appropriate. The following guidelines should be employed for determining the appropriate number of samples to characterize the excavated soils. If the soils are being taken to a fixed disposal or fixed treatment facility, the additional sampling requirements, if any, for that facility should be followed.

Soil volume (cubic yards)	Number of discreet samples*
1 – 10	2, one from each half
11 -20	3, one from each third
21-100	4, one from each quarter
101 -500	one sample for each 25 cubic yards, not to exceed 10 samples
> 500	one sample for each 50 yards

**Discreet samples, in intervals of two, may be combined into a composite sample in the laboratory from the sample extract to save on the cost of analyses. For example, four (4) discreet samples can be combined in the laboratory to create two composite samples. VOC samples should be composited after the extraction process has been performed using an aliquot of the extract.*

Discreet samples should be collected from the excavated soil by pushing or driving a clean split-spoon type sampler lined with clean sleeves composed of an inert material such as Teflon, stainless steel, or brass. Sample collection should be conducted in accordance with industry standards.

Completely filled sleeves should be immediately sealed by completely covering the ends with a Teflon patch, covering the Teflon patch with a foil patch, covering the patches with tight-fitting plastic caps, and sealing the caps by wrapping custody seals or non-contaminating tape around the sleeve, overlapping the lower edge of the cap. The sample should be immediately labeled, placed in a sealable plastic bag, and stored at 4 degrees Celsius.

Alternative sampling methods may be used if approved by the Arizona Department of Environmental Quality. The sample should be submitted to a fixed-based or mobile analytical laboratory certified by the Arizona Department of Health Services to perform the appropriate analyses. A properly completed chain-of-custody document should accompany all samples.

The soil sample preservation and extraction for volatile organic contaminants should be conducted in accordance with ADEQ Policy 0170.00 Implementation of EPA Method 5035 – Soil Preparation for EPA Methods 8015B, 8021B and 8260B. Petroleum contaminated soil sampling can be considered “UST/Tank sampling” with regards to Policy 170, allowing the collection of bulk samples. Samples should be analyzed for the constituents and laboratory methods as indicated in Table 1.