Confirmatory Sampling Plan

Introduction

Pursuant to the Approved Interim Remediation Plan for site #734048, soil will be excavated from the impacted area. The Sampling Plan has been prepared to detail the procedures to be followed for sampling and analysis of soil for post excavation confirmation at the listed portion of the Clark Property as described and shown in Appendix A of the Agreement and Determination ("Clark Site").

A. Soil Excavation

Soil will be excavated from the Clark Site to a minimum depth of 13 feet which is the requirement for the installation of the proposed foundation. Additional vertical excavation in selected areas will continue until a field HNU meter indicates that the VOC levels in the remaining unexcavated soils may be below the 5 ppm total and 1 ppm individual volatile organic parameter criteria, as described in Section 2.1 of the Approved Interim Remediation Plan.

At that point samples will be taken from the base of the unexcavated area and analyzed by an on-site gas chromatograph (GC) to determine whether the area from which the sample was taken fulfills the "5 and 1" criteria.

If the criteria is met, excavation will end in that portion of the Clark Site. If the "5 and 1" criteria is not met, excavation will continue in that area (the soil transported to the treatment structure) until a GC-analyzed sample indicates the representative area meets the "5 and 1" criteria.

For purposes of this plan, any soil excavated from the Clark Site which is not tested in accordance with the procedures detailed in this plan will be handled as contaminated soil and transported to the treatment structure.

B. Post Excavation Sampling

Lateral and vertical excavation will continue until VOC screening of soil using the PID, followed by GC analysis, demonstrates that uncontaminated soil remains. Confirmatory samples will be collected from the base and walls of the excavation using a 50-foot grid spacing. Samples will be collected with a stainless steel trowel and analyzed for VOC's with on-site GCs. If, after excavation has proceeded sufficiently to enable building foundation construction and sample results confirm that remaining soil meets the "5 and 1" criteria, excavation will cease. If on-site GC results indicate a sample contains a VOC concentration greater than the "5 and 1" criteria, excavation will continue in the vicinity of that sample using the same post excavation sampling procedures as stated.

C. Quality Assurance/Quality Control

Analysis by GC will include the parameters at the site which have been identified in the greatest concentration in the soil. These include trans-1,2-dichloroethene, cis-1,2-dichloroethene, benzene, trichloroethene, toluene, tetrachloroethene, vinyl chloride, meta- & para-xylenes, and ortho-xylenes. The reporting limit for these compounds is 0.5 ppm (mg/kg). Chromatograms generated during GC analysis as a result of this Plan will be retained and available on-site for review and submitted to the Department following completion of the excavation activities. Each chromatogram generated pursuant to this Plan will be labelled with the date and time of analysis, sample number, dilution information and volume of sample injected into the gas chromatograph. In addition, all peaks will be labeled with either the retention time or compound identification.

Quality assurance/quality control measures used during on-site GC analysis will include the initial and continuing calibration of the gas chromatograph, the analysis of laboratory blanks, laboratory spikes and spike duplicates. Prior to analysis a three point initial calibration curve will be prepared for each compound of interest with the reporting limit concentration as the low concentration standard of the calibration curve. Utilizing a mid-point concentration standard for each compound of interest (continuing calibration standard), the field laboratory will analyze the continuing calibration standard along with a laboratory blank once every twelve hours. If the percent difference between the initial and continuing

calibration of any compound of interest exceeds 25%, an initial calibration for the gas chromatograph will be prepared and any sample that exhibits an individual compound concentration of less than 1.0 ppm will be reanalyzed. In addition, the retention time of each peak must fall within the retention time window (±0.30 minutes). If the retention time falls outside the window, the field laboratory will either reanalyze the affected sample or evaluate the chromatogram with either the expanded or shifted windows. The field laboratory will not make any corrections to the analytical results to compensate for any blank contamination. Laboratory spikes and spike duplicates will be analyzed either once every twelve hours or once every twenty samples analyzed.

Confirmatory analyses by US EPA SW-846, third edition (Nov. 1986) Method 8240 will also be provided by testing split samples from ten percent (10%) of samples at an acceptable off-site analytical laboratory, or as required by the Department. Additionally confirmatory soil sampling will be conducted for the Target Compound List (TCL) parameters by Contract Laboratory Procedure (CLP) protocol as required by the Department.

Quality assurance/quality control measures used during soil sampling will include one blind duplicate sample per 10 samples collected and one equipment blank per day. Collection tools, including stainless steel trowels, hand augers or hollow rods, will be decontaminated between samples by employing the following procedures:

- tap water rinse
- Alconox detergent scrub
- tap water rinse
- methanol rinse
- deionized water rinse
- air dry

Quality assurance/quality control measures used during soil screening will include calibration of the PID equipment at least once per work shift.