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MOUND

Environmental
Restoration
Program

Further Assessment

Soil Gas Confirmation Sampling

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1.0 INTRODUCTION

1.1. BACKGROUND AND PURPOSE

In 1994 and 1995 as part of the Operable Unit 5 Investigations, the Mound ER Program conducted an extensive soil gas survey to search for possible organic chemical contamination in the soils. The survey was conducted on the southern portion of the plant property and identified a number of areas where elevated concentrations of organic chemicals exist. Based on these results, the Mound ER Program identified 49 potential release sites due to the possible organic chemical contamination.

Potential Release Sites (PRSs) Identified from Soil Gas Survey Results

346	356	363	370	381	389	396
347	357	364	372	382	390	397
348	358	365	374	383	391	398
351	359	366	375	384	392	399
352	360	367	377	386	393	402
353	361	368	378	387	394	403
355	362	369	380	388	395	404

While the soil gas survey identified areas where concentrations of organic chemicals were elevated in comparison to other soils, it did not quantify the results in terms that could be directly compared to clean-up guidelines. The ER Program, in conjunction with US EPA and Ohio EPA developed the Soil Gas Confirmation Sampling Plan to examine the locations with the highest soil gas measurements so that the hazard associated with the elevated measurements could be assessed. In addition, these results may be useful in addressing the risks associated with potential release sites other than those listed above.

A secondary, and unrelated, objective of this investigation was to perform a number of interlaboratory comparisons between contracted wet radiochemistry laboratories, the Mound Plant Environmental Wet Radiochemistry Laboratory, and the Mound Plant Soil Screening Laboratory. Thirty-one locations, selected by Ohio EPA, were used in the laboratory intercomparison study.

This report documents the results of Soil Gas Confirmation sampling and analysis and the results of the laboratory intercomparison study. These data will supplement Potential Release Site (PRS) data packages and be considered in determining the final disposition of the sites identified above. Section 4 of this document explains how the results of this investigation can be used to develop conclusions about these PRSs. The Mound ER Program, US EPA, and Ohio EPA will evaluate the results of laboratory intercomparisons.

Terran Corporation of Beavercreek, Ohio, with assistance from Innovative Probing Solutions of Mt. Vernon, Illinois, sampled 100 locations in adherence to the Soil Gas Confirmation Sampling Plan (see appendix) which was consistent with the Operable Unit 9, Site-Wide, Quality Assurance Project Plan (QAPP) and Standard Operating Procedures (SOPs). Samples were collected from February 5 to February 21, 1996.

The parameters analyzed at each sampling location include:

Volatile Organic Compounds (VOCs) by CLP Method OLM01.8 including Modification D
Semivolatile Organic Compounds (SVOCs) by CLP Method OLM01.8 including Modification D
Pesticides/Polychlorinated Biphenyls (PCB's) by CLP Method OLM01.8
USATHAMA and PETN Explosives by Weston OP 21-16L-8330.1
Target Analyte List (TAL) Inorganics by CLP Method ILM03.0 including Modification A
Nitrate/Nitrite by CLP Method ILM04.4
Radionuclides screening by Mound Method MD--80030 operation #1355
Quantitative radionuclides by several contract laboratory and Mound SOPs

Table I.1 presents the complete analyte list.