GWOU ADMINISTRATIVE RECORD
SECTION TITLE:
GW-200-201-1.03

ENGINEERS
AND
CONSTRUCTORS

MORRISON KNUDSEN CORPORATION
MK-FERGUSON GROUP
WELDON SPRING SITE REMEDIAL ACTION PROJECT
7295 HIGHWAY 94 SOUTH
ST. CHARLES, MISSOURI 63304
PHONE: (314) 441-8086

65733

November 7, 1996

U.S. Department of Energy
Weldon Spring Site
Remedial Action Project
ATTN: Mr. Stephen H. McCracken
Project Manager
7295 Highway 94 South
St. Charles, MO 63304

SUBJECT: Contract No. DE-AC05-86OR21548
TRANSMITTAL OF UNSCHEDULED FFA-DELIVERABLE; ADDENDUM TO THE SAMPLING PLAN FOR THE RI/FS FOR THE GROUNDWATER OPERABLE UNIT-ADDENDUM 1; RAFFINATE PIT 3 SLUDGE SAMPLING

Dear Mr. McCracken:

Enclosed are six copies of the subject document. This is a Federal Facility Agreement unscheduled deliverable, and copies should be submitted to the MDNR and the EPA.

Sampling notification (FFA Number 96-021) for these activities was given to the EPA and the MDNR on November 1, 1996.

Please contact Julie Reitinger at extension 3522 if you have any questions.

Sincerely,

James R. Powers
Project Director

Enclosures: as stated

JRP/jr/jk

cc: Pamela Thompson

q:\es&h\sludge

Addendum to the Sampling Plan for the RI/FS for the Groundwater Operable Unit-Addendum 1; Raffinate Pit 3 Sludge Sampling.

1.0 Introduction

This document describes the Raffinate Pit 3 sludge sampling that will be conducted to determine the source of volatiles in groundwater wells surrounding the raffinate pits. Recent groundwater sampling data have shown elevated levels of trichloroethane (TCE) in wells near Raffinate Pit 3 (MW-2038, 2037, and 3025). The entire groundwater monitoring network at the chemical plant area has been recently been sampled (June and Sept, 1996) and analyzed for volatile compounds. Several wells have shown detectable concentrations of TCE up to 9,000 ug/l and 1,2-dichloroethane to 15 ug/l. Two sludge samples previously collected (1990 and 1991) from the southwestern corner of Raffinate Pit 3 have shown TCE concentrations ranging from 23 ug/kg to 110 ug/kg.

2.0 Sampling and Analysis

The Waste Maintenance Group will conduct Raffinate Pit 3 sampling to obtain sludge samples for biodenitrification bench testing during November, 1996. Six locations within Raffinate Pit 3 (Figure 1) will be sampled to the bottom of the raffinate pit, which has an estimated depth of 10 ft. Sludge samples will be collected using a trier sampling tool. The trier tool is a stainless steel tube with an inner tube that allows sludge to enter the tube, a bottom cap is released, the tube bottom is closed, and sample is extracted. Sludge samples will be taken for biodenitrification testing at the top, middle, and bottom intervals of the sludge, at approximately 3 ft intervals, for a total of three samples per location which will be composited by interval into 5 gallon buckets.

A sample will also be collected at each interval for volatiles analysis. Samples shall be collected by placing a portion of the sludge from the trier sampler directly into 125 ml wide-mouth glass jar. Each 5-gallon bucket will be scanned using a photoionization detector (PID) to determine if organic vapors (volatiles) are detected, in accordance with ES&H procedure 3.1.1, *Measurement of Photoionizable Gases and Vapors: Calibration and Use of the Photoionization Detectors*. Field notes shall record the location where the sludge was collected, the sample identification number, the depth sampled, the number of composites, the PID instrument and serial number, the bucket identification number, and the respective PID meter reading.

Sludge samples shall be sent for off-site analysis if the PID meter reading taken from the 5-gallon bucket if greater than 5 ppm. Sludge samples will be sent for volatile analysis at two locations (locations 5 and 6; southeast and southwest corners) (Figure 1) regardless of the PID detector reading obtained. Sludge samples shall be packaged in a 125 ml wide mouth glass jar. Samples shall be tightly packed so as to eliminate headspace in the vial. Samples shall be labeled with the sample identification number, date sampled, sampler name(s), and parameter (SW846 volatiles). Samples shall also be packed in ice and maintained at 4° for shipment.

Samples will be identified using WSSRAP Procedure ES&H 4.1.1a, *Numbering System for Environmental Samples and Sampling Location*. An example of the sample identification numbers is SL-300x-110696-01, which is defined as:

SL - sludge sample
300 - Raffinate Pit 3
x - specific sampling locations identified 1 through 6 as shown on Figure 1
110696 - date sampled by month, day, and year
01 - depth sampled by interval (e.g., 01 is the first interval, 02 is the second interval). Interval length for each sample shall be recorded in the field logbook.

3.0 Quality Control

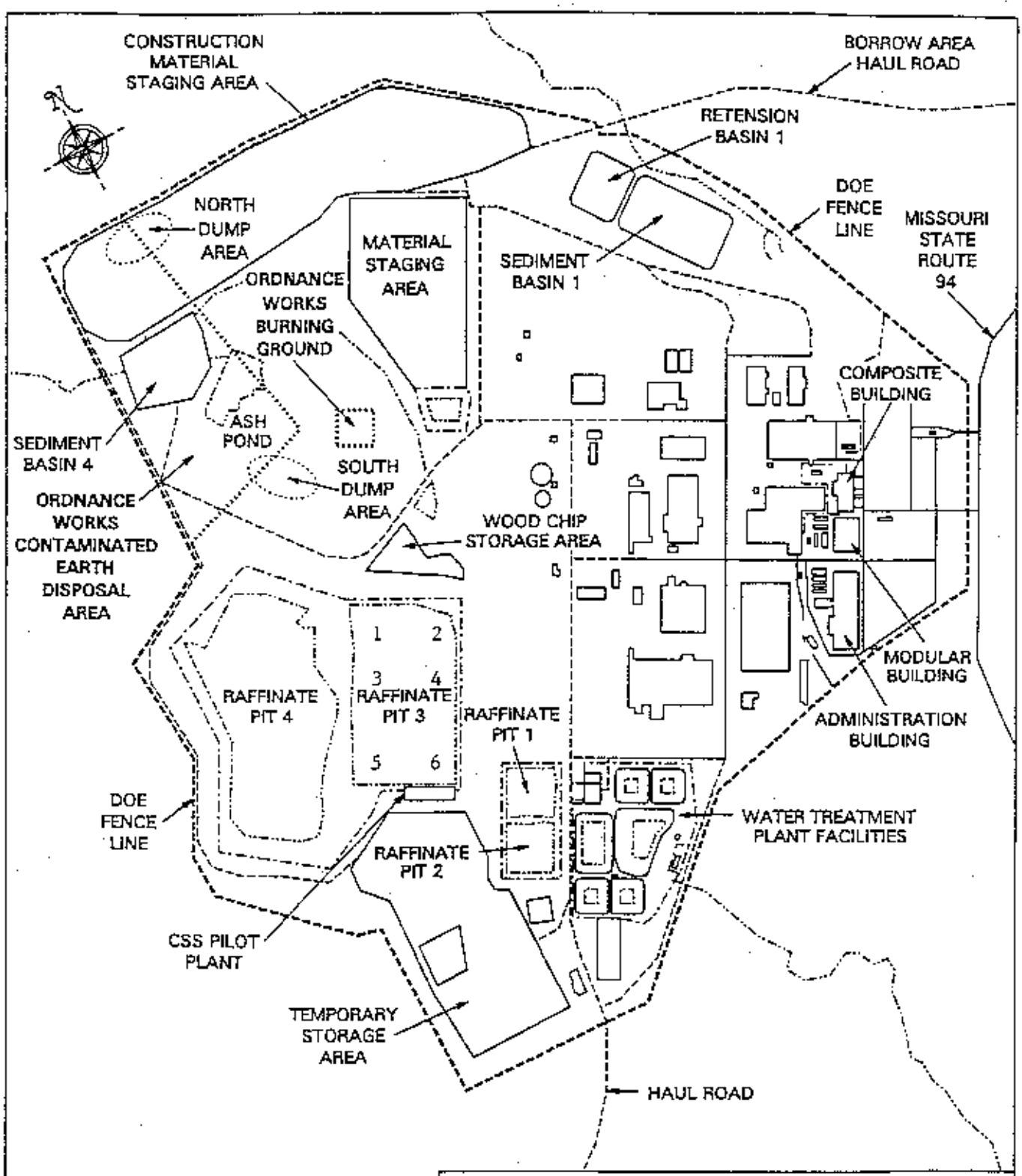
Sample chain-of-custody forms will be prepared for shipment of samples to the off-site analytical laboratory and placed in sample coolers. Sample coolers prepared for shipment will be sealed with chain-of-custody control seals that are signed and dated by the shipper. Chain-of-custody forms and seals will be prepared in accordance with WSSRAP Procedure ES&H 4.1.2s, *Initiation, Generation, and Transfer of Environmental Chain of Custody*. Samples will be analyzed using the CLP volatiles analysis with detection limits of 10 ug/kg.

Sampling equipment and tools used to collect or transfer samples will be cleaned and decontaminated between samples. Decontamination will be performed in accordance with WSSRAP procedure ES&H 4.1.3, *Sampling Equipment Decontamination*. This procedure requires that tools from soil and sludge sampling be washed with a non-phosphatic soap, rinsed, and triple rinsed with distilled water.

Quality control samples will be collected in accordance with WSSRAP procedure ES&H 4.1.4, *Quality Control Samples for Aqueous and Solid Matrices: Definitions, Identification Codes, and Collection Procedures*. Quality control samples for this task will include one equipment blank, one trip blank, one matrix spike, and one matrix spike duplicate.

Signature Request:

ENVIRONMENTAL DOCUMENTATION MANAGER	11/6/96 DATE
DATA ADMINISTRATION MANAGER	11/6/96 DATE
DEPUTY PROJECT MANAGER	11/6/96 DATE



SLUDGE SAMPLING FOR VOLATILES
RAFFINATE PIT 3

0 500 1000 FT
0 152.4 304.8 M
SCALE

FIGURE 1

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