GWOU ADMINISTRATIVE RECORD
SECTION TITLE:
GW-500-501-1.08

FILE: Weldon Spring - Raffinate Pits
St. Charles County

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HAZARDOUS WASTE PROGRAM
MISSOURI DEPARTMENT OF NATURAL RESOURCES

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STATE OF MISSOURI
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MEMORANDUM

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January 21, 1997

DATE: January 23, 1997

TO: Larry Erickson, Unit Chief, Department of Energy Unit
Federal Facilities Section, Hazardous Waste Program, DEQ

FROM: Diana Travis, Geologist, Environmental Geology Section
Geological Survey Program, DGLS

SUBJECT: Addendum 1: Volatiles Sampling; Engineering Soil Sampling Plan for Characterization of the Weldon Spring Raffinate Pits

LOCATION: Defiance and Weldon Spring 7.5-Minute Quadrangles, St. Charles County, Missouri

The Division of Geology and Land Survey (DGLS) has reviewed the subject document. In general, the addendum was found to contain a clear and concise description of proposed volatile organic compound (VOC) sampling in the vicinity of Raffinate Pits 3 and 4 at the Weldon Spring Chemical Plant. The following specific comments are provided for your consideration.

1. Page 4, Paragraph 3: According to the text, one of the uncertainties associated with sampling is ". . . whether decontamination and laboratory protocols will be maintained in order to provide reliable data with which to determine the presence of volatiles in soil samples." Given the equipment decontamination procedures outlined in Section 10.2 (Page 13), it is unclear why the effectiveness of decontamination procedures is considered "uncertain." Please explain.

2. Page 5, Section 4.1, Paragraph 1: Three vertical boreholes are to be advanced in the vicinity of Raffinate Pit 3. The boreholes are to be located to the southwest, south, and southeast of Raffinate Pit 3. These borehole locations have reportedly been selected ". . . since groundwater is contaminated in the southern portion of the raffinate pit area and since the potential exists for these soils to be contaminated by migration of volatiles from the sludges of Raffinate Pit 3." It should be noted that groundwater to the

east of Raffinate Pit 3, in the vicinity of MW-3024 and MW-3025, has also been found to be contaminated with VOCs.

3. Page 7, Section 6.1, Paragraph 2: According to this paragraph, all borehole cores from Raffinate Pit 3 will be field scanned for organic vapors using a PID. Field screening is to take place in an area with a representative low background level. Please describe the methods to be used to preserve samples during transportation to the designated area with "low background levels."

4. Pages 7 to 8, Sections 6.1 and 6.2: The descriptions of sampling intervals for subsurface soil sampling to be conducted in the vicinity of Raffinate Pit 3 are unclear. According to Section 6.1, all borehole cores from Raffinate Pit 3 will be field scanned for organic vapors using a PID, and *core samples that exceed 5 ppm or are three times greater than ambient air readings* will be collected as discrete samples. However, according to Paragraph 2 of Section 6.2, samples will be collected at *1-foot intervals*, and *only the samples to the native soil interface (estimated at 15 feet) will be shipped for analysis of the contaminants of concern. All other samples below 15 feet will be archived until results of the 15-foot samples are known.* Finally, according to Paragraph 3 of Section 6.2, cores taken from the three locations designated in the southern portion of Raffinate Pit 3 will be field scanned with a PID, but *discrete samples will be taken regardless of the PID reading. The discrete samples will be taken at 5-foot intervals for laboratory analysis, unless a sample is taken from the smaller interval that has a PID reading higher than 5 ppm or three times ambient air reading.* Please clarify these descriptions of subsurface soil sampling intervals.

5. Page 7, Section 6.2, Paragraph 2: According to this paragraph, only the soil samples to the native soil interface (estimated at 15 feet) will be shipped for analysis of the contaminants of concern. All other samples below 15 feet will reportedly be archived until results of the 15-foot samples are known. Please describe preservation procedures for the archived samples, given that the holding time for volatile organic compounds in soil is 14 days.

Please contact Diana Travis at (573) 368-2124 with any questions regarding these comments.

DT:kb