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LETTER AND COMMENTS FROM MISSOURI DEPARTMENT OF NATURAL RESOURCES
REGARDING FINAL PRELIMINARY GROUNDWATER ASSESSMENT FOR OIL SATURATED
AREA, HAZARDOUS WASTE STORAGE AREA, HAZARDOUS MATERIAL STORAGE AND
FIRE VALVE AREA KANSAS CITY MO

7/28/1998

MISSOURI DEPARTMENT OF NATURAL RESOURCES

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

McCumbler Governor • Stephen M. Mohr Director

DIVISION OF ENVIRONMENTAL QUALITY

PO Box 176 Jefferson City, MO 65102-0176

July 28, 1998

Mr. John H. Fringer, P E
AFBCA/DB
1700 North Moore Street, Suite 2300
Arlington, VA 22209-2802

RE: Final Preliminary Groundwater Assessment, Oil Saturated Area (SS003),
Hazardous Waste Storage Area (SS004), Hazardous Material Storage (SS006),
and Fire Valve Area (SS009), Operating Location Q, Former Richards-Gebaur
Air Force Base, Belton, Missouri (November 1996)

Dear Mr Fringer:

The Department of Natural Resources has reviewed the subject document. The following comments are provided for your action/response.

General Comments

1. The purpose of this project was to perform a preliminary groundwater assessment at sites SS003, SS004, SS006, and SS009 to determine the presence or absence of groundwater contamination. Contaminants were detected at each of these sites (sites SS006 and SS009 exhibit groundwater contamination above applicable MCL values). Groundwater flow directions have not been determined at sites SS006 and SS009. Also, there is question as to the validity of the groundwater flow direction at site SS004 since the "upgradient" well exhibits the highest levels of contamination found in the groundwater at this site.
2. Although it has been determined that the groundwater has been impacted at these sites, the hydrogeology of three of the sites is not well understood. Versar was unable to locate uniform water-bearing zones and, therefore, has concluded that shallow groundwater appears to be "perched" in the unconsolidated and weathered bedrock overlying competent bedrock. Because Versar was unable to locate uniform water-bearing zones beneath the sites, groundwater flow directions were not determined and the extent of contamination is not known.

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Specific Comments

- 1 Section 1.2, page 4 Site SS003 is located in Cass County, while sites SS004, SS006, and SS009 are located in Jackson County.
2. Section 4.2, page 32, Groundwater Sampling Results: VOCs were detected at low concentrations in the samples collected from monitoring well SS004-MW-01, which is reported to be hydraulically upgradient. The detection of VOCs in this well may indicate that the groundwater flow direction determined for this site is incorrect. It may also indicate the existence of a previously-unidentified contaminant source farther upgradient of this well. Further investigation at this site should be conducted.
- 3 Section 4.3, page 35, Site Geology and Hydrogeology: One monitoring well was installed at site SS006. According to the document, the groundwater observed in this well is derived from saturated weathered and competent bedrock units screened by the well. The determination of groundwater flow direction at this site has been partially based on groundwater flow directions determined for sites SS003 and SS004. However, groundwater observed at those sites is interpreted to be "perched" in the unsaturated weathered bedrock overlying competent bedrock. Groundwater flow directions in the saturated zone at site SS006 cannot be inferred from groundwater data gathered from the unsaturated zone at sites SS003 and SS004. Furthermore, one monitoring well at site SS006 is not sufficient for determining groundwater flow direction. Groundwater at this site has been impacted; however, groundwater flow direction at this site has not been determined. Further investigation at this site should be conducted.
4. Section 4.4, page 39, Site Geology and Hydrogeology: Since temporary well SS009-PZ-03 did not contain a sufficient volume of water, and because groundwater elevation data from well SS009-PZ-02 is considered to be invalid, these wells should not be used in determining groundwater flow directions at site SS009. The determination of groundwater flow direction at this site has been partially based on groundwater flow directions determined for sites SS003 and SS004. The groundwater flow interpretations of sites SS003 and SS004 should not be used in determining groundwater flow direction at site SS009. Therefore, groundwater flow direction at site SS009 has not been determined.
5. Section 4.4, page 43, Groundwater Sampling Results: The text states that lead was detected in well SS006-MW-01 at 5.9 micrograms/L. The text should be corrected to read "well SS004-MW-01."

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6. Section 5.3.2, page 48, Site SS004: Versar recommends closure for this site because the pollutant source has been removed and no groundwater contamination was detected. TCE was detected just below the MCL in monitoring well SS004-MW-01, which was determined to be the upgradient well. This raises some question as to whether groundwater flow direction has been accurately determined at this site. Furthermore, the possibility of a previously-unidentified contaminant source exists. These issues need to be addressed prior to site closure (See Comment 3)
7. Section 5.3.3, page 49, Site SS006: The document states that one SVOC and three VOCs were detected at concentrations above their respective MCLs in the groundwater at site SS006. Versar has recommended closure for this site. Has a site-specific assessment been performed to determine if a less stringent cleanup value is justified for these contaminants at this site?
8. Section 5.3.3, page 49, Site SS006: The document states that a groundwater seep in the Central Drainage Area shows VOC contamination. Has the source of this contamination been investigated? Since groundwater flow directions have not been determined for site SS006, and since site SS006 is in close proximity to the Central Drainage Area, it is possible that contamination found in the groundwater at site SS006 is the source of contamination found in the seep at the Central Drainage Area.
9. Section 5.3.3, page 49, Site SS006: Groundwater flow direction at site SS006 has not been determined. Furthermore, contamination above MCLs exists in the groundwater at this site.
10. Section 5.3.4, page 49, Site SS009: Versar recommends closure for this site because the pollutant source has been removed and groundwater contamination was detected at levels slightly above one order of magnitude over drinking water standards. Information from the document indicates that four VOCs, one SVOC, and five RCRA metals were detected at concentrations above their respective MCLs in the groundwater at site SS009. Has a site-specific assessment been performed to determine if less stringent cleanup values are justified for these contaminants at this site?

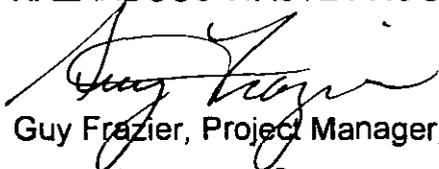
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11 Section 5.3.4, page 50, Site SS009: Groundwater flow direction at site SS009 has not been determined. Furthermore, contamination above MCLs exists in the groundwater at this site.

If you have any questions you may call me at (573) 751-2506.

Sincerely,

HAZARDOUS WASTE PROGRAM



Guy Frazier, Project Manager, DOD Unit
Federal Facilities Section

GF.lg

c: Bob Koke, EPA

Randy Maley, MDOH