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U S AIR FORCE RESPONSE TO U S EPA REGION VII COMMENTS REGARDING DRAFT
REMEDIAL INVESTIGATION FOR SITES FT002, SS003, SS004 AND ST005 KANSAS CITY
MO
12/31/1992
DEPARTMENT OF THE AIR FORCE



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Air Force Reserve Response to USEPA comments
on the Richards-Gebaur AFB MO
Draft Remedial Investigation for
North Burn Pit, FT002
Oil Saturated Area, SS003
Hazardous Waste Drum Storage, SS004
POL Storage Yard, ST005

2.1 Page 1. The introduction should explain the scope or definitive purpose of the RI report.

AFRES Response to USEPA comment 2.1: A paragraph on the scope of RI was added to the report.

2.2 Page 2. An explanation of the direction of the investigations for the 5 sites at Richards Gebaur should be included in the introduction of this report.

AFRES Response to USEPA comment 2.2: The RI introduction now includes an explanation on the direction of the investigations for the four sites at Richards-Gebaur AFB.

2.3 Page 5. A brief explanation of the history of investigations at the sites and their conclusions and recommendations should be included in this RI report. Briefly explain what has been done under the IRP program including results of the "Confirmation Quantification Report", 1988, and the "Final Report Vol. I & II", 1988.

AFRES Response to USEPA comment 2.3: A historical brief has been added to the report along with conclusion summaries for each site.

2.4 Throughout the report regulatory criteria are referenced in sections which discuss analytical results. ARARs should be discussed in detail for each media being sampled and a table should be developed indicating the contaminants identified, their concentrations, and levels of detection along with the applicable state and federal criteria which govern actions on specific concentrations.

AFRES Response to USEPA comment 2.4: Applicable state and federal regulations or criteria governing actions on specific concentrations were added to the report.



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2.5 There is no reference to Quality Assurance/Quality Control in the sampling efforts. A formal Quality Assurance Project Plan (QAPP) is necessary to support sampling activities.

AFRES Response to USEPA comment 2.5: The QAPP should be in your files and was approved by your office in 1989.

2.6 All 4 sites have documented contamination by petroleum compounds. TPH analysis should have been conducted on all soil samples from these 4 sites. Criteria for TPH contamination in soils are available from the Missouri Department of Health.

AFRES Response to USEPA comment 2.6: Comment acknowledged. Future sampling will include the TPH indicator parameter if a petroleum release is suspected.

2.7 Page 10. The source for the geologic map should be referenced.

AFRES Response to USEPA comment 2.7: The source was referenced on the geological map.

2.8 Page 11. The source for the soils map should be referenced.

AFRES Response to USEPA comment 2.8: The source was referenced on the soils map.

2.9 Page 14. The Decision Document for Site 6 reports that 3 soil borings were drilled around the Fire Pit. Data from these borings should be included in this report. Explain any proposed investigation of the drain field which received the runoff.

AFRES Response to USEPA comment 2.9: Data from the three soil borings was provided to your office July 1988. The Decision Document discusses the three soil borings drilled around the fire pit in paragraph 2, in section titled "Phase II, Stage 2 Confirmation/Quantification Findings." The drain field does not exist. The oil-water separator (now closed) drained into a storm water swale. Samples detected no contaminants in the stormwater swale. The Remedial Investigation was amended with additional groundwater study (enclosed) to fill in data gaps at the site. The No Further Action Decision Document was retracted for this site.



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2.10 Page 14. It was previously stated that the soils were very soft due to oil saturation and had to be stabilized with crushed stone. Indicate these areas on Figure 3-2 and explain the locations of the surface soil samples. Explain why no borings were proposed for these supersaturated areas.

AFRES Response to USEPA comment 2.10: The intent of locating the soil samples around the perimeter of the site was to determine the horizontal extent of oil contamination. The saturated zone had been characterized in the previous study. Collecting additional saturated zone soils would of required moving a building. This site has since been cleaned up. Sampling confirms that cleanup objectives were met.

2.11 Page 14. Explain why no borings were performed at Site 10. Previous investigations identified contamination (petroleum hydrocarbons) at high concentrations in surface and subsurface soils. The site is located on the slope of Scope Creek. If remedial activities are to be evaluated in a feasibility study (FS), the depth of contamination needs to be identified. Also explain why TPH was not part of the analysis. Discuss any sediment sample analysis from the creek performed in previous studies.

AFRES Response to USEPA comment 2.11: The highest concentrations of petroleum hydrocarbons were found in surface samples. Deeper borings were not warranted based on favorable geologic conditions as assessed from site boring depth / contamination profiles in a previous report. The previous investigation collected no sediment samples. This site was cleaned up 2 Apr 92. Only 15 cubic yards of soil required removal. Sampling confirms that cleanup objectives were met via removal.

2.12 Page 21. A ground water contour map and geologic cross sections should be prepared for Site 6. This data is required to properly assess the site hydrogeology. Based on the site topography ground water flow may be radial.

AFRES Response to USEPA comment 2.12: There were not enough data points to prepare a meaningful contour map. The enclosed second phase RI contains a contour map and includes several new monitoring wells.



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2.13 Page 21. Describe why no analytical results are provided for the ground water sample collected from GMW1. Also describe why ground water elevation data was not collected from GMW1, GMW2, and GMW3.

AFRES Response to USEPA comment 2.13: The monitoring wells were dry with the exception of GMW1, which provided a limited quantity of groundwater. Since there was not enough water to perform all of the analysis, the sample was prepared for only one method run.

2.14 Page 21. A ground water contour map and geologic cross sections should be prepared for Site 12. This data is required to properly assess the site hydrogeology. Describe why no ground water samples were collected from GMW4.

AFRES Response to USEPA comment 2.14: The Remedial Investigation will be amended with additional groundwater study to fill in data gaps at the site. Limited lithological information prevented contour mapping of the site.

2.15 Page 26. This report states that the drilling fluid used during borehole advancement at Site 6 was not completely removed from the wells prior to collection of ground water samples. It is recommended that wells at Site 6 be properly purged and resampled for TPH, VOCs, Semi-VOCs, and metals.

AFRES Response to USEPA comment 2.15: Due to the extremely low flow characteristics of the well, and the lack of groundwater, the contractor was not able to completely purge the well. The well was recently resampled, the same limitations persisted despite previously gained knowledge of groundwater production characteristics.

2.16 Page 28. A detailed geologic map of the study area has been published. The rock units encountered by borings at Site 6 should be identified with the appropriate stratigraphic names. This information is valuable in assessing the site hydrogeology.

AFRES Response to USEPA comment 2.16: Richard J. Gentile PhD, a recognized expert in Belton geology, coauthored Hydrogeologic Analysis of Richards-Gebaur AFB, MO, 1992. This publication was used to revise the RI.



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2.17 Page 36. A detailed description of the hydrogeology for both sites 6 and 12 should be provided in the report. This section should include hydraulic gradients and ground water flow velocity data, as well as ground water system conditions (confined, semi-confined, etc.) and the stratigraphic units that comprise the hydrogeologic system monitored at each site.

AFRES Response to USEPA comment 2.17: A cohesive analysis of hydrology could not be made with the limited lithological data in this RI. A supplemental RI (enclosed) to address site groundwater characteristics has been added as a second phase to the RI. This report is enclosed and contains a summary of hydrological conditions at the site as requested.

2.18 Page 39. It is stated that monitoring wells MW2 and MW3 were found to contain volatiles. There are no data indicating this in the exhibits.

AFRES Response to USEPA comment 2.18: Table 4-6 has been added to Exhibit A. This table shows the results from a previous investigation which detected chloroform and tetrachloroethylene in some of the samples at concentrations less than a part per billion.

2.19 Page 40. The monitoring well GMW-607 is located on Site 6 and GMW-604 is located sidegradient of Site 6. The text should be consistent with Figure 3-1.

AFRES Response to USEPA comment 2.19: The correction was made.

2.20 Page 44. The vertical extent of contamination at Site 10 should be defined. The potential for the shallow ground water to be contaminated due to concentrations of petroleum hydrocarbons at 1900 ppm in surface soils should be discussed in the text.

AFRES Response to USEPA comment 2.20: Vertical extent was determined by previous investigation. The site has since been cleaned up. It was deemed improbable that groundwater was impacted due to characteristics of Macksburg Urban-Complex soil. The cleanup confirmed this hypothesis. The site was cleaned up to background levels.



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2.21 Page 45. Monitoring well 1208 is upgradient of the highest subsurface TPH concentrations detected on Site 12. There are no monitoring wells located downgradient of this highly contaminated area. The statement that ground water has not been contaminated by TPHs is premature and additional monitoring wells should be located within and downgradient of the TPH contaminated area delineated by USACE subsurface soil samples 47 through 52.

AFRES Response to USEPA comment 2.21: A supplemental RI was performed to determine the extent of groundwater contamination in response to this comment. Four additional monitoring wells were installed during this additional RI/FS. The report is enclosed.

2.22.1 Throughout the baseline Risk Assessment, chemicals were eliminated from a quantitative risk assessment because they were detected in only one sample. This approach is valid with a large sample population but it should not be used where there is a small sample population, such as is the case with some of the sites at Richards-Gebaur.

AFRES Response to USEPA comment 2.22.1: Comment acknowledged. Chemicals detected in the samples are now incorporated as indicator parameters in the Risk Assessment. Chemicals detected in blanks and those within established background levels were not added as indicator parameters.

2.22.2 A comment should be made addressing future exposure scenarios.

AFRES Response to USEPA comment 2.22.2: Future exposure scenarios are addressed in the supplemental RI (enclosed).

2.22.3 The text states that the methodology O'Brien & Gere used in the baseline risk assessment is based on EPA's Exposure Assessment Manual (EPA 1988) and the EPA Public Health Evaluation Manual (EPA 1989). Current EPA policy is to use EPA's Risk Assessment Guidance for Superfund (December 1989) which replaced the US EPA Public Health Evaluation Manual. The baseline risk assessment should reflect this guidance. This will require changes throughout the assessment in areas such as terminology, chemical selection, selection of critical toxicity values, and calculations.

AFRES Response to USEPA comment 2.22.3: Referenced guidance was in error. The reference will be corrected.



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2.23.7 Page 73. Under US EPA Risk Assessment Guidance for Superfund, Acceptable Daily intakes (ADI) have been replaced by RfDs, a value that uses more strictly defined methodology. References and use of ADIs should be changed to RfDs to reflect EPA's preferred values for use in evaluating potential noncarcinogenic health effects.

AFRES Response to USEPA comment 2.23.7: Comment acknowledged. The text will be modified as appropriate.

2.23.8 Page 85, Table 5-9. Variables listed in the equation, such as "AF", are not assigned a value under the variable section. Likewise, undefined variables, such as "DA", have a value assigned to them but are not listed in the equation. The rationale for including the "WD" variable should be explained for clarity. The inability to follow the derivation of the ADI values results in the inability to assess the Cancer Risk and Hazard Quotient values listed in Tables 5-2 through 5-8. The equations used should be the equations from the US EPA Risk Assessment Guidance for Superfund and should not be altered.

AFRES Response to USEPA comment 2.23.8: Comment acknowledged. The tables will be modified as appropriate.

2.23.9 Page 86, Table 5-10. Soil concentrations should be based on a reasonable maximum exposure level as determined by the 95 percent upper confidence limit on the arithmetic mean rather than solely on the arithmetic mean.

AFRES Response to USEPA comment 2.23.9: Reference response to comment 2.23.5.