

# HAZWRAP

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM

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### ENVIRONMENTAL RESTORATION

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THIS TRANSMITTAL CONSISTS OF 6 PAGES (EXCLUDING COVER SHEET)

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#### COMMENTS:

DOCUMENT REVIEW: DRAFT FINAL, PHASE I RFI/RI WORK PLAN  
ORIGINAL PROCESS WASTE LINES (OU 9) ROCKY FLATS PLANT,  
NOVEMBER 1991

Date: November 15, 1991

ADMIN RECORD

A-OU09-000010

**DOCUMENT REVIEW: DRAFT FINAL, PHASE I RFI/RI WORK PLAN  
ORIGINAL PROCESS WASTE LINES (OPERABLE UNIT 9)  
ROCKY FLATS PLANT, NOVEMBER 1991**

**MAJOR CONCERNS:**

The sampling plan developed for Operable Unit (OU) 9 appears to be logical and well thought out. We are particularly satisfied that the investigators have attempted to develop a conceptual site model that scopes and drives the Field Sampling plan. There are, however, several areas where the plan could be improved. Historical data is not utilized to the maximum extent. Further incorporation of the historical data could focus the investigation on those areas where past spills and leaks occurred and allow the analytical sampling to be specific with respect to certain contaminants. The risk assessment plan should be made more site specific; this investigation appears to be constrained to evaluating soil contamination in the direct vicinity of the pipes and tanks, this should be incorporated into the risk assessment. The application of the data collected as part of the environmental evaluation is unclear given the limited scope of this investigation. Because of the broad areal scope of OU9 and because OU9 transects several other OUs, it would be appropriate to reference other environmental evaluations, rather than sampling to determine the impact of Operable Unit 9 on the flora and fauna. The work plan should also include references to the other on-going investigations. Incorporation of data from these other investigations may narrow the scope of the phase II investigation at this operable unit.

**GENERAL COMMENTS:**

1. The work plan contains a generic discussion of the risk assessment process, but contains no specific plan for conducting the baseline risk assessment for the operable unit. Site specific information should be incorporated into the plan when available. For instance, elements of the site model such as potential pathways and site-specific exposure factors can be identified in the planning stage.
2. The plan contains no provision for integrating the ecological risk assessment with other operable units at the Rocky Flats Plant (RFP). Such an approach is essential for addressing ecological risk on a site-wide basis.
3. The sampling plan is not consistent with the approach to estimating exposure point concentrations presented in the human health risk assessment plan. Because of the scope of the operable unit and the likelihood of the occurrence of hot spots along the pipeline, a plan for addressing this distribution of contamination needs to be developed.
4. The site-conceptual model, data quality objectives, data needs and sampling plan are not presented in a connected fashion. The data quality objectives should reflect the gaps in the conceptual model where information is required in order to make a remedial decision.
5. The final disposition of the tanks and lines should be provided. This information could then be incorporated into the screening and analysis of remedial alternatives.

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5. Section 1.3.3.7, Regional Geology, Quaternary Deposits, p. 1-10: The word "above" in the sentence: "The alluvium occurs from 250 to 380 feet above modern stream drainages" should be clarified. We assume "above" is used in a simple spacial context as opposed to a stratigraphic context; however, we anticipate that the spacial distance between the stream channel and the alluvium approach zero up slope and towards the head of the stream valley.
6. Section 1.3.3.7, Regional Geology, Upper Cretaceous Deposits, p. 1-12: The following statement should be clarified: "Its areal extent has been predicted to the two 'Geologic Characterization Report' depositional interpretations discussed previously".
7. Section 2.2.2.2, p. 2-4: This section indicates that there was a great deal of control and documentation on the types, quantities and locations of hazardous materials transported and spilled. This information does not appear to have been properly analyzed. Incorporation of this information of this stage of the investigation would aide in determining sample locations.
8. Section 2.2.4, p. 2-8, paragraph 2: The work plan should not include "recommendations" regarding the scope of the investigation. The work plan should describe the scope in precise terms. The decision to include, or exclude, sites from investigation should be made by another process prior to the writing of the work plan.
9. Section 2.2.4, p. 2-8, paragraph 3: It is unclear why the investigators included a table designed to help clarify the interaction between the various investigations, and then stated that the sampling plan for this investigation would not attempt to coordinate with other investigations. We recommend that the relationship between the sampling presented in this plan be coordinated with the sampling conducted at other sites.
10. Section 2.3.2.2, Bedrock Geology, Arapaho Sandstones, p. 2-12: The grain size qualifiers used in the text should be described. For example, on the Wentworth scale very fine sand is between 0.125 and 0.063 millimeters in diameter; however, ASTM standards used by engineers place the fine sands in the range 0.425 and 0.074 millimeters.
11. Section 2.3.3.2, Ground Water, p. 2-14: The contour maps of the unconfined ground water surface are misleading for OU1, because there are wide areas where no unconfined groundwater exists (*Final Phase III RFI/RI Work Plan Revision 1, Rocky Flats Plant, 881 Hillside Area, EG&G, March 1991*). Isopach maps, that were contoured for the thickness of the unconfined saturated zone, indicated that the saturated zone consisted of several isolated "puddles" of groundwater. Perhaps the investigators would benefit more from using both the contour map in Figure 2-6 and isopach maps based on the same data. This combination may provide more guidance concerning the depth to saturated conditions (i.e., to determine whether or not do unconfined saturated conditions exist at a particular location).
12. Section 2.4.1, p. 2-18, paragraph 3: The reference regarding the disposal of volatile and semi-volatile organics in the waste system should be presented.

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13. Section 2.4.3.2, p. 2-21: The title of this section should be changed to indicate that the presented groundwater data will not be incorporated in the analysis of OU9.
14. Section 2.5.2.1, p. 2-25, Paragraph 5: The use of 500 gallons as a reasonable approximation of a release should be clarified. Gradual releases will likely result in contaminant plumes of a considerably shorter length.
15. Section 3.0, p. 3-1: The chapter would benefit from a summary section that describes which requirements will be followed in this investigation.

Since this investigation does not include groundwater or surface water sampling, the inclusion of water standards does not appear to be necessary. A system to determine which requirements will be applied to soils since this is the focus of the investigation would be appropriate and should be included.

16. Section 4.1.2, p. 4-2, paragraph 1: The assumption that no data exists that can be used does not seem valid. The information already collected at other operable units in section 2 and appendix B, could do a great deal to focus this investigation. The existing data should definitely be utilized in developing the Data Quality Objectives (DQOs) and data needs.
17. Table 4-1: This table should include the use of field screening and air monitoring and the techniques to be used to locate the buried pipe system.
18. Section 5.3.3.2 p. 5-4, Paragraph 1: Excavation depth may not be an applicable parameter on which to base the sample locations. Other criteria such as those listed and historical spill information should take precedence.
19. Section 5.3.3.2 p.5-5 Paragraph 4: In addition to smear samples, inside surface radiological dose rates would be valuable data for future. This information, would be useful in verifying process piping historical data and for future disposal criteria.
20. Section 5.3.4 p. 5-5: The contingency plans if areas are inaccessible should be described. These areas will need to be included in the site characterization in some manner.
21. Figure 6-1: The schedule is not complete. There is no time frame for development of the baseline risk assessment. Field Investigation should be broken into its component parts, and the screening of alternatives should be taking place in conjunction with the field investigation. By doing the screening in conjunction with the field investigation it may be possible to fill data needs screening during this phase of the investigation.
22. Section 7.2, Background and Rationale, p. 7-1; It is stated that "this FSP has been developed under the assumption that no usable data are available to describe the contaminant sources and the soils in OU9", but that "historical data will be used to help focus the sampling effort." This statement seems to be a contradiction, please clarify the term data. We do not believe

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it is necessary to reject all previous data simply because the quality assurance/quality control procedures were not consistent with present RFP procedures. The data may be relegated to a level II status (qualitative status).

23. Section 7.2.1, p. 7-2: The reference to the Department of Energy (DOE) keeping the regulators informed by technical memoranda should be deleted.
24. Section 7.3.1: This information should have already been collected and presented in this work plan (i.e., this is consistent with a environmental restoration (ER) program Phase I, site investigation).
25. Section 7.3.2, p. 7-6, paragraph 3: This is the first mention of a "prework radiological survey." Please clarify what this survey entails and how this information will be used.
26. Section 7.3.2.1, p. 7-6, paragraph 5: "If practical, the test...." The identification of survey anomalies for the sampling plan is the purpose of the prework survey and needs to be a primary factor in the choice of a test pit location.
27. Section 7.3.2.2, Stage 2 Investigation: The precautions that will be taken to prevent contamination of groundwater should be specified. Also, the fate of the boreholes after sampling has been completed (reference SOP if appropriate) should be described.
28. Section 7.3.2.2, p. 7-7, paragraph 1: The pattern is not a grid pattern, please reword.
29. Section 7.3.2.2, p.7-7, 7-8, paragraph 2: The "5 and 20 foot intervals in both directions" should be clarified and related to Figure 7-4. There seems to be a discrepancy in this figure and what is stated in this section. The figure indicates a single 5 foot interval and additional 20 foot intervals. There are no indications as to the direction of the 5 foot interval samples and the criteria for the discontinuation of the 20 foot interval tests.
30. Section 7.3.3.2, Stage 2 Investigation, p. 7-11: If the groundwater is not examined, then the extent of the contaminant plume cannot be defined. Perhaps it should be stated that the lateral extent of the plume will be defined. Also, in the event that contamination is found at the water table, the action that will be taken by the ER program at RFP should be clarified.

The phrase "the unique nature of the tank configuration" is unclear. The meaning of unique should be explained. Also, the phrase "nominal grid pattern" should be defined.

31. Section 7.5, p. 7-14: This section should reference a data management plan. This would appear to be particularly important for this investigation due to the nature of determining pipe, and tank locations. How this information will be documented should be presented in this work plan or the data management plan referenced.

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32. Figure 7-3: The text includes a discussion on sampling below the water table. The figure does not show any sampling below the water table and should be clarified.
33. Table 7.3: The title "SPLS" should be clarified and/or identify it in the "List of Acronyms".
34. Table 7.3: The Explanation "Not a valid OPWL tank location" should be clarified. A footnote indicating the reasons for exclusion would be helpful.
35. Figure 7-4: Perhaps additional samples should be taken to clearly identify the end of the contaminant plume. The 20 foot interval testing was stopped at the top of the plume before a non-contaminated sample was located.
36. Figure 7-5: The branch which requires an inspection of a tank that is beneath a production building should be clarified. There needs to be a contingency plan if the tank is totally inaccessible.
37. Figure 7-6: Whether or not a soil sample be taken under the tank even though it is below the water table should be specified. This would be analogous to the sampling under the pipeline when it is under the water table (Section 5.3.3.2.).
38. Section 8.2.2, p. 8-3, Paragraph 3: The "minimum- and maximum-reported concentrations" per sample should be clarified. An additional helpful parameter would be to include the depth spacing of the reported contaminants.
39. Section 8.2.3, p. 8-4: The fourth bullet states "Contaminant can be attributed to RFP activities." The possibility of a contaminant that cannot be "officially" attributed to RFP but is definitely there needs to be addressed. This may identify a previously unreported contaminant.
40. Section 8.3.6, p. 8-10, Paragraph 1: This paragraph makes reference to the "intake factor" and states that it is combined with the exposure point concentrations and the critical/toxicity values. The reference is unclear and is not standard risk assessment terminology. A more appropriate and well-defined description of the generic risk assessment equation is needed.

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