



United States Department of the Interior

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February 21, 1995

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Ms. Julie Erickson
U.S. Department of Energy
Richland Operations Office
P.O. Box 550, MS H4-83
Richland WA 99352

Dear Ms. Erickson:

The U.S. Fish and Wildlife Service (Service) is providing the following comments on the North Slope cleanup documents: Draft Interim Close-out Report North Slope (Wahluke Slope) Expedited Response Action, Hanford, Washington, document number DOE/RL-94-138, draft A; and A Compendium of Field Reports for the North Slope (Wahluke Slope) Expedited Response Action, Hanford, Washington, document number DOE/RL-94-139, draft A.

General Comments

The Service is concerned that significant quantities of contamination may remain on the North Slope at the sites where military bases were formerly located. This contamination has the potential to impact fish and wildlife resources for which the U.S. Department of Interior is cotrustee. As the probable future land manager, the Service has a particular need to ensure that adequate cleanup occurred. Our concerns are based on the following:

- 1) Significant contamination was found in the initial landfill excavation. Using the analogous approach, which assumed that the materials in the landfill excavated were representative of the materials in all the landfills, the contamination at the first site clearly indicated that significant contamination at the other landfills could be expected.
- 2) Despite the significant contamination at the initial landfill excavation, U.S. Department of Energy (USDOE) chose to characterize (trench) rather than excavate the other landfills. The Service believes that this approach was incorrect.

- 3) Limited sampling during characterization provided inadequate information to assess the likelihood of contaminant occurrences in additional landfills.
- 4) Our ability to utilize the limited data available is reduced by the lack of organization and comprehensive discussion in the report.

The preferred alternative for North Slope cleanup action, Characterization and Hazard Mitigation, was described in the North Slope Expedited Response Action Cleanup Plan (U.S. Department of Energy, 1994a) as follows: "*The results of the H-06-L landfill characterization [complete excavation] will be used to determine if further actions (beyond the full and limited characterization activities) are required at the remaining nine landfills.*" As noted above, excavation at the first site, the former military base designated H-06-L, identified several contaminants. Contaminant occurrences at the H-06-L landfills included 600 cubic yards of DDT-contaminated soil, 200 cubic yards of soil contaminated with petroleum and polycyclic aromatic hydrocarbons, and at least seven other contaminant occurrences of unspecified volume (listed elsewhere in this letter). In addition, containers which contained tar-like substances and lead-based paints were removed. The Service contends that the H-06-L landfills contained significant contamination. Following excavation of the landfills at H-06-L, however, USDOE decided to do characterization (trenching) at the landfills associated with the other former military bases rather than do any further excavation. The subject reports do not provide any justification for this decision.

The Characterization and Hazard Mitigation alternative was based on the analogous approach, which assumed that landfills at the military bases were substantially similar. Following the excavation of the landfills at H-06-L and the discovery of significant contaminants, the analogous approach should have led to the conclusion that other landfills could contain significant contamination. Accordingly, at least one other landfill should have been completely excavated to determine the degree to which the analogous approach could be applied.

The Service supported the Characterization and Hazard Mitigation alternative with the understanding that, if significant contamination was found in the H-06-L landfills, excavation and contaminant removal would occur at the landfills of some or all of the other former military bases. The Service recognized that this decision would be critical in determining the success of cleanup on the North Slope. In a letter dated January 11, 1994, we specifically requested that we be included in this decision-making process. This request was not honored. The Service, as a current and probable future land manager, should have been included in the North Slope cleanup decision-making process.

Characterization of the landfills at the former military bases on the North Slope, with the exception of H-06-L, was conducted by trenching geophysical anomalies. Although the Service does not consider that characterization was an appropriate action given the contaminants in the H-06-L landfill, adequate characterization might have provided sufficient information to assess the likelihood that significant amounts of contaminants occurred in the

landfills. However, sampling during the trenching process was inadequate. Thus, the Service has no reasonable assurance that the North Slope landfills have been accurately characterized, much less cleaned up. Inadequate sampling was related to the following situations.

- 1) Following excavation of H-06-L, work at additional landfills was to be conducted according to the Work Plan Landfill Characterization and Remediation, Site H-06-L, Hanford North Slope Washington (U.S. Department of Energy, 1994b). That document states that at least one sample was to be collected from each anomaly excavated. The decision to eliminate this sampling eliminated the bulk of the proposed sampling. Consequently, the potential that contaminants remain in the landfills cannot be assessed. Once again, we emphasize that the Service should have been involved in the decision-making process.
- 2) Trenching revealed many containers and situations likely to be associated with contamination, however, sampling at several landfills was quite limited. For example, at the former military base designated PSN 12/14, a large number of anomalies were trenched, yet sampling was limited to one background (non-landfill) and one composite waste characterization sample. Examination of the list of materials excavated by the trenching (DOE/RL-94-139, Table 4-1) suggests several appropriate opportunities for sampling, such as oil filters and cans containing residual materials. In several cases, not only was no soil sample taken from beneath the items, no PID (photoionization detector) reading is reported. Specifically, the many landfills described as "burn pits" or containing burned material should have been sampled, as the burned remains provided little information about the types of materials disposed in the landfill. Because of the lack of sampling of suspect items or situations revealed by trenching at several landfills, the potential that contaminants remain in the landfills cannot be assessed.
- 3) At H-06-L and several other military bases, detected contamination was removed. However, it appears that little or no additional sampling was conducted (*e.g.* bottom and sides of the excavation) to determine whether adequate soil removal occurred, or if contaminated soil remains in the landfills.

The Service is concerned that no refuse landfill was found at the former military base designated as PSN-90. Although refuse landfills were also not located at several other bases, PSN-90 is of particular concern for two reasons. First, because this was a vehicle maintenance area, there is a higher probability that contaminants (used motor oil, oil filters, etc.) may have been disposed in a landfill. Second, DDT metabolite ratios in fish collected from Saddle Mountain Lake in 1992 indicated an unweathered source of DDT in the watershed. DDT is known to occur in these military landfills, and samples from H-06-L showed that very little weathering of DDT to its breakdown products had occurred. PSN-90 is situated between irrigated farmland, upgradient, and a wasteway, downgradient, which empties into the system feeding Saddle Mountain Lake. A caliche layer occurs at 12 to 21 feet below surface level which could create a perched water table at or not far below the depth that

a landfill is likely to occur. The Service has considered PSN-90 to be a possible source for unweathered DDT in Saddle Mountain Lake. We request that USDOE consider further action to address this concern, and suggest one or more of the following:

- 1) Conduct further geophysical surveys at PSN-90.
- 2) Analyze additional fish from Saddle Mountain Lake to determine whether unweathered DDT is continuing to enter the system or whether the previous study detected an isolated release of DDT.
- 3) Fund a previously developed Service study proposal which would determine whether PSN-90 is the probable point source of DDT.

Requested Revisions to Document DOE/RL-94-139

The Service was not included in the North Slope decision-making process. We request that the report be expanded to describe the information from the H-06-L landfill excavation and the criteria which were used to determine that characterization, rather than further excavation, would occur at remaining landfills. This will allow the reader to understand the reasoning behind this decision.

The North Slope ERA Weekly Status Report #6 stated that *"The USACE is investigating a report that the H-06-L landfill was once a designated DDT disposal site. This may account for the large amount of DDT-contaminated soil found at this location."* The results of this investigation should be provided. This will allow the reader to assess whether use of the analogous approach was appropriate.

Sections 4.3.1 through 4.3.3 discuss the following contaminant occurrences in H-06-L landfills: 600 cubic yards of DDT-contaminated soil at site A-01E, 200 cubic yards of soil contaminated with petroleum and polycyclic aromatic hydrocarbons at site A-04W, and two composite samples used to characterize paint and tar-like wastes segregated from several excavations. However, several other contaminant occurrences can be found in the small print tables and appendices which are not discussed in the text. The following contaminant occurrences should be discussed, and information should be provided on volumes removed, and sampling (*e.g.* bottom and sides of the excavation) which confirmed adequate removal:

- DDT and chlordane in soil below six 1-gallon insecticide cans at site A-07W, orders of magnitude above Model Toxics Control Act (MTCA) cleanup standards.
- DDT in soil below one insecticide can (volume unspecified) at site A-14E, five to ten times higher than MTCA cleanup standards.
- DDT in soil below a 55-gallon drum at site A-12E, five times higher than MTCA cleanup standards, along with dieldrin above MTCA cleanup standards.
- PCBs in soil (characterized as petroleum contaminated) at site A-19W, two and a half times the MTCA cleanup standard.

- Arsenic in soil below a crushed 5-gallon can at site A-17W, about an order of magnitude higher than all other samples.
- Lead in residual material from inside a 55-gallon drum at site A-16W, four times as high as the upper value of the 95% range of lead in western soils (Shacklette and Boerngen, 1984) and almost as high as the MTCA cleanup standard.
- Lead in soil from inside a 55-gallon drum at site A-05W, twice as high as the upper value of the 95% range of lead in western soils.

Information on sampling procedures used during cleanup should be provided, including whether soil samples were individual or composite, method of compositing, and sample volume.

Detection limits for chemical analyses should be provided. Typically, particle size and percent organic matter are included in soil analyses. If soil analysis included these parameters, the results should be included in the tables. Particle size and percent organic matter data are necessary for accurate interpretation of soil contaminant concentrations.

This report includes three sets of appendices designated with the same letters, creating difficulties in providing appropriate comments. This problem should be corrected in the final version.

In Appendix E, information on waste from H-06-L, site A-12E, should be included in the table. Volumes of waste removed should also be included.

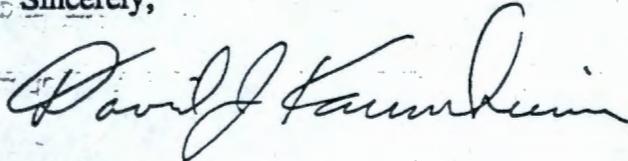
In those appendices containing Shannon and Wilson, Inc. reports, it is difficult to determine whether disposal problems were resolved, particularly regarding contaminated materials, because of the sequential activities covered in several reports. We request that a summary be provided for the contaminated materials handled by this contractor, describing for each occurrence: the source and situation, sample types, contaminant concentrations, handling, and disposal.

In the second Appendix D (well decommissioning), complete analytical results should be provided. The list of 400 plus compounds detected by the Miran 1B should be provided. Page 3, bullet 7 is very confusing. This section should be clarified to indicate the sample type (e.g. what is a waste stream?), sample date, the reason for accepting one analysis over another, and what criteria were used to determine "clean." On Table 1, the military base designation (PSN 12/14, H-06-L, etc.) corresponding to the well number should be included for readers who do not have access to Hanford or State coordinates. Finally, several township, range, and section numbers in the Well Construction and Completion Summary are apparently incorrect.

We appreciate the opportunity to provide comments to the Draft A version of the North Slope reports. We specifically request that USDOE respond to the Service regarding further actions

We appreciate the opportunity to provide comments to the Draft A version of the North Slope reports. We specifically request that USDOE respond to the Service regarding further actions at PSN 90, and wish to be involved in the development of these actions. Please contact Liz Block in this office if you have any questions concerning our comments.

Sincerely,



David J. Kaumheimer
Field Supervisor

lb/fo

Reference cited:

U.S. Department of Energy. 1994a. North Slope (Wahluke Slope) Expedited Response Action cleanup plan. Document number DOE/RL-93-47, revision 0. U.S. Department of Energy, Richland, WA.

U.S. Department of Energy. 1994b. Work plan landfill characterization and remediation, Site H-06-L, Hanford North Slope, Washington. Document number DOE/RL-94-44, revision 0. U.S. Department of Energy, Richland, WA.

Shacklette, H.T., and Boerngen, J.G. 1984. Element concentrations in soils and other surficial materials of the conterminous United States. U.S. Geological Survey Professional Paper 1270. 105pp.

cc: U.S. Department of Interior, Portland (Preston Sleeper)
U.S. Bureau of Land Management, Spokane (Jake Jakobosky)
U.S. Department of Energy, Richland (Paul Kube)
U.S. Fish and Wildlife Service, Othello (Dave Goeke)
U.S. Environmental Protection Agency, (Larry Gadbois)
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