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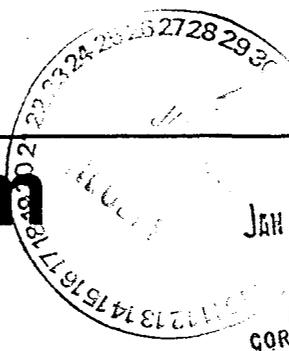
Department of Energy

DATE 2-24-92

Memorandum

Rocky Flats Office

JAN 28 1 11 PM '92



TION Kersh

JAN 24 1992

EG&G
ROCKY FLATS PLANT
CORRESPONDENCE CONTROL

AMIN, A.	
AN, H.S.	
ZKE, J.C.	
JNGAME, A.H.	
P, R.D.	
JCHER, D.W.	
J.G.	
ED, J.E.	A X
RA, D.W.	
CIS, G.E.	
JWIN, R.	
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Y, T.J.	
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TER, A.W.	
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TIC, J.R.	
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RENS, B.E.	
AN, R.V.	
TO, V.M.	
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LL, B.F.	
IN, N.B.	
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SON, E.R.	
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DOE Comments on Technical Memorandum 5, Addendum to Final Phase III RFI/RI Work Plan, Draft Surface Soil Sampling and Analysis Plan, 881 Hillside Area, Operable Unit No. 1

J. M. Kersh, Associate General Manager
Environmental Restoration and Waste Management
EG&G Rocky Flats, Inc.

Please find attached DOE comments on Technical Memorandum 5, Addendum to Final Phase III RFI/RI Work Plan, Rocky Flats Plant, Draft Surface Soil Sampling and Analysis Plan, 881 Hillside Area, (Operable Unit No. 1), dated January 1992. These comments were given to EG&G informally on January 17, 1992.

We request that these comments be responded to in writing at least five (5) working days prior to submitting the final version of this document to EPA, CDH, and the Natural Resource Trustees.

Questions or concerns regarding this memorandum and/or the attached comments, should be directed to Bruce Thatcher (extension 3532) or Scott Grace (extension 7199) of my staff.

David P. Simonson
David P. Simonson
Assistant Manager
for Environmental Management

Attachments

- cc w/Attachments:
- F. Lockhart, ERD, RFO
- R. Schassburger, ERD, RFO
- S. Grace, ERD, RFO
- B. Thatcher, ERD, RFO
- C. Gee, EG&G
- D. Smith, EG&G

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GENERAL COMMENTS

The document is oriented too much toward human health. Expand to include ecological receptors.

The print on the figures should be darkened.

LOCATION	SPECIFIC COMMENTS
p. 1-1, par. 1, line 9	Add sediments.
p. 1-1, par. 2, 2nd sentence	I question this. One cannot (or should not) calculate volumes without knowledge of aerial extent of surficial contamination. How will the depth extent of surficial soil contamination be determined? We will not want to assume soil removal to a depth of 6 feet nor will we want to leave surficial soil contamination that presents unacceptable risk to human or ecological receptors unremediated.
p. 1-3, Sec. 1.2, 1st sentence	Add the baseline risk assessment.
p. 1-14, Sec. 1.2.1.3	Add discussion of source and transport. Add discussion of ecological receptors.
Figure 1-5	Insert location of drain.
p. 1-16, item (5)	Insert "area and" before "volume". How will the depth extent of contamination be determined to calculate volume?
P. 1-17, Sec. 1.2.1.4	Modify to be consistent with OU 1 tech memo 6. This includes current offsite residential, future onsite residential, and qualitative vs. quantitative assessments.
p. 1-17, Sec. 1.2.2.2, 3rd bullet	Define how relative mobility is defined.
Table 1-4	Incorporate methodology to evaluate whether hexavalent or trivalent chromium are present should total chromium be high.
p. 1-25, 1st bullet	Include that Level III data provide data to support engineering design parameters and for use in risk assessment.
p. 1-25, par. 2, risks". line 2	Replace "evaluate health risks" with "evaluate human health and ecological

p. 1-25, det.
limits

Consider analytical requirements based on ecological receptors as well as human receptors. The following documents from the U.S. Fish and Wildlife Service may be helpful:

- 1) Contaminant Hazard Reviews (Biological Reports), and
- 2) Evaluating Soil Contamination (Biological Report 90(2)), dated July 1990

Larry Woods, EG&G, ext, 5417 should have these.

p. 1-38, par. 1,
line 3

Insert "and concentration levels" after "spatial variability".

p. 2-6, Sec.
2.1.2

Regarding selection of sample locations: What if randomly selected sample locations is disturbed (road, gravel, dirt storage from drain excavation)? Suggest these be "voided" and additional grids randomly selected.

p. 2-10 and
2-11

Calculation shown on page 2-11 not consistent with equation on page 2-10. Which is correct? Revise text accordingly.

p. 2-10, par. 2

Specify power in text.

p. 2-11

What is the basis for selecting this area as background? More discussion needed.

p. 2-11 thru
2-14, Sec. 2.1.3

Revise to cleanup terminology and discussion on statistical tolerance limits.

Specify in the text the power of the statistical tolerance limit methodology to be used.

With regard to ANOVA, why is the discussion included in the text? Will this be an option? Modify text accordingly. Also, specify multiple comparison procedure(s) to be used.

p. 2-12, par. 4

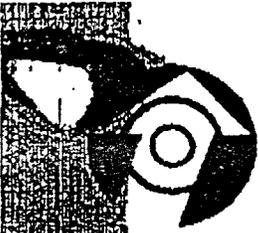
Consider offsite background samples for Pu and Am.

p. 2-14, Sec.
2.1.4

What is the statistical basis for sediment sampling? This should be included in the text as it is highly inconsistent with that presented for surficial soil sampling.

Plate 1

Shows east end of drain too far east.



**SYSTEMATIC
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17 January 1991

Fraser R. Lockhart, Director
Environmental Restoration Division
Department of Energy
Rocky Flats Office
Golden, CO 80402-0928

Re: Review of Technical Memorandum 5: Addendum to Final Phase III RFI/RI Work Plan,
OU 1, January 1992

Dear Fraser:

I have reviewed the referenced document per request. In general it is a good work plan and reflects an increased emphasis on DQOs which I applaud. My specific comments are listed below:

1. There needs to be a discussion in DQO section on natural variability for those contaminants which have natural and other than RFP anthropogenic sources.
2. Figure captions on 2-2 and 2-4 need to be distinguished from each other.
3. TOC, Table 1-8 I assume "completer" should be "complete"
4. acronyms: usually base neutral/acid extractable is abbreviated BN/AE
5. acronyms: IR should not be used for both ingestion and inhalation
6. acronyms: pCi/g: we have a request to also convert the activity unit to ppm for reporting to CDH

7. acronyms: TRU is transuranic not necessarily mixed TRU; usually DOE refers to mixed transuranic wastes as mixed TRU
8. page 1-1 1st paragraph: insert OU1 prior to Baseline Risk Assessment.
9. page 1-1 2nd paragraph: clarify surface, subsurface and near surface by clearly defining the depth profile referenced and eliminating the use of the three terms; use soil terms as profiles and geological terms, e.g overburden for soils immediately above the rock, etc.
10. The figures are entirely too busy. The maps should be blown up so OU-1 is almost full size for easier reading.
11. page 1-3 paragraph 2: Note that this work supplements Phase III of OU-1
12. Table 1-1: do we really know that no surface spill or upward migration has occurred such that the right hand column entries for 102,103,104, and 105 are correct?
13. Table 1-2: Why is there only a personal communication record of these data? How does such a reference affect data acceptance?
14. Figure 1-4 is eligible in terms of the scape locations.
15. Figure 1-5: GOOD!
16. page 1-17 #2: add a paragraph referencing Technical Memo 1 and providing rationale for eliminating recreational, agricultural and on-site residential from quantitative analysis.
17. Table 1-3: Radionuclide mobility why dissimilar from metals?

Soil radon flux would provide a detailed information map -- want to use some electrets? Their quite cheap and can be repeatedly read in the field.

Footnote 4: "moderate mobility" provide rationale so that its exclusion is obvious
18. Class I, paragraph 2: cite site specific data -- there must be reams

Technical Memo 5: OU-1
Comments on January 1992 Draft
BSA

"products of nuclear reaction ("criticality")" this is not good terminology for intended use -- "nuclear fission" is the term I'd recommend.

19. page 1-21 through p 11-25 paragraph discussing Level V, IV, III: I believe requiring Levels IV and V for validation no matter what the data use is may be constraining; look carefully at the use of specific Level III data unless it can be stated that the cost effectiveness of CLP is more appropriate.

20. Tables 1-5, 1-6, and 1-7: why is inhalation not included?

I think these tables and through Table 1-10 should also be in Tech Memo 1 along with the discussion

21. page 1-38: "Critical Samples" is a badly chosen heading; find an alternative

22. Section 2, page 2-1: If actinides were aerially deposited as particles and if continued aerial particulate deposition continues with no actinide component, the contaminants may be an inch or more under the soil surface. I think there must be some evaluation of surface soil resuspension and deposition at RFP and relationship evaluated compared to the particle size distribution of the actinide contaminated particles we're looking for. Then the appropriate soil sampling depth could be predicted and method followed whether its CDH, or anyone else's. If we have no resuspension/deposition data to base the method on I think we should pilot soil sampling looking at the upper 5-10 inches and particle sizes versus actinide concentrations in a transect from a source to some buffer zone area.

23. page 2-3 2nd full paragraph: how does 5 Cm compare with annual soil resuspension/deposition?

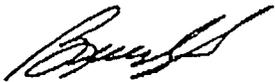
24. Third paragraph, page 2-3: I think there should be a summary at the beginning of Section 2 identifying all the methods to investigate soil concentrations at the surface, including the pits. Then the reader isn't as troubled by the inadequacy of the CDH or any other single technique. Need some discussion of integrating results to obtain a more comprehensive picture.

Technical Memo 5: OU-1
Comments on January 1992 Draft
BSA

25. Figure 2-5 How does this relate to wind scouring/deposition patterns?
26. Page 2-14: Section 2.1.4: How are these samples taken?

Thanks for the opportunity to review the document. I hope my comments are helpful. Have Dennis call if anything needs clarification.

Sincerely,



Beverly S. Ausmus, PhD