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CORRES. CONTROL
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DIST.	LTR	ENC
BURLINGAME, A.H.		
BUSBY, W.S.		
CARNIVAL, G.J.		
CORDOVA, R.C.		
DAVIS, J.G.		
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FRAY, R.E.		
GEIS, J.A.		
GLOVER, W.S.		
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HEALY, T.J.		
HEDAHL, T.G.		
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RATTERWHITE, D.G.		
SCHUBERT, A.L.		
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SETLOCK, G.H.		
STIGER, S.G.		
TOBIN, P.M.		
VOORHEIS, G.M.		
WILSON, J.M.		
Fuller, W.A.	X	X
Hollowell, L.	X	X

CORRES. CONTROL	X	X
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RTS/T130G		

Reviewed for Addressee
Corres. Control RFP

11-2-94 DATE
BY

Encl. Ltr. #

DOE ORDER # 5400.1

Department of Energy

ROCKY FLATS OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

Nov 2 11 39 AM '94

OCT 28 1994

EG&G ROCKY FLATS PLANT CORRESPONDENCE CONTROL

94-DOE-11006

Mr. Martin Hestmark
U. S. Environmental Protection Agency, Region VIII
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Mr. Joe Schieffelin
Hazardous Waste Facilities Unit Leader
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
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Gentlemen:

Since the Work Plan for Operable Unit No. 8 (OU 8) has been approved, we are now transmitting to you the responses to comments raised in Gary Baughman's letter dated June 3, 1994, on the Draft Technical Memorandum 1, Data Compilation. In the enclosure, each comment is referenced and the response to the comment follows. In addition, responses to some general observations made by Mr. Baughman in his cover letter for the comments are noted below.

It is our understanding that the concept of the integrated Industrial Area OU project was to address the Industrial Area in a more cohesive manner in order to accelerate investigation activities and ultimately the remedies. Toward this end, during the scoping meetings for the Stage 1 investigations it was decided that as part of the OU 8 investigations, the foundation drains for the entire Industrial Area would be investigated and include the OUs. Table 11 in Chapter 4 of the report does separate out OU 8 Individual Hazardous Substance Sites from the rest of the plant, however, we believe that overly stressing OU 8 to the exclusion of the other Industrial Area OUs would create subsequent confusion and make the document more difficult to use as a resource for completion of the RCRA Facility Investigation/Remedial Investigation (RFI/RI) for the other OUs. It is our position that the portions of this Technical Memorandum which specifically relate to OU 8, or other OUs can be readily discerned.

Identification of sampling locations from storm or sanitary sewer systems is to be based on the infiltration and exfiltration analysis (Chapter 5 of Technical Memorandum No. 1). Although it may have not been made clear in Chapter 5, the recommendations for sampling were held in abeyance until the 24 hour closed circuit television (CCTV) tape of the storm sewer system could be reviewed an evaluated. The available results of the CCTV survey have been located and are currently being compiled. Once the compilation

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process has been completed, the data will be field verified and then evaluated and incorporated into the next draft of this Technical Memorandum.

In addition, recommendations for soil borings at this stage of the RFI/RI investigations are not appropriate. Based on the OU 8 Work Plan, the Stage 2 activities will include the results of the high purity germanium detector, Nal surveys, surface soil sampling, vertical soil profile sampling, soil gas surveys, surface water and sediment sampling and the tank, valve vault and pipeline data compilation results. Based on the Stage I and Stage 2 results, investigations for Stage 3 activities will be recommended. Stage 3 activities may include further surface soil sampling, soil boring and BAT or equivalent ground water sampling. Therefore, recommendations for soil borings prior to the completion of the Stage 2 activities is considered premature.

If you have any questions regarding this matter, please contact Regina Sarter at 966-7252.

Sincerely,

Steven W. Slaten
IAG Project Coordinator
Environmental Restoration

Enclosure

cc w/Enclosure:
J. Roberson, AMER, RFFO
F. Lockhart, ER, RFFO
R. Sarter, ER, RFFO
J. Burd, SAIC
W. Fuller, EG&G

GENERAL COMMENTS

1. *The cover of this document must include a reference to the Final, Phase I RFI/RI Work Plan to which this Technical Memorandum is appended.*

Response
This Technical Memorandum is the record of the Stage 1 activities for the RFI/RI investigations as described in the Work Plan. The title will be revised to reflect that it is an addendum to the Work Plan.

2. *The Division was informed during OU 8 RFI/RI Work Plan scoping meetings that foundation drains might play a significant role in the transport and fate of contaminants. Certainly, the sampling of drain outfalls is an important task. However, the Division ??? gained the impression in the scoping sessions that preferential pathways within the backfill, not merely the discharges from the drains, would direct more precisely the locations of boreholes or other sampling techniques to characterize the level of contamination. (For example, metals may have been mobilized for a period of time along the path of the drains but be indicated to a lesser degree, or non-detectable, in drain effluent.)*

Response
As discussed under the response to the cover letter comments, it is agreed that the backfill material existing around the underground pipelines may be a pathway of concern. Once the compilation and evaluation of the results of the CCTV survey are completed, they will be incorporated into the document and used to identify locations where the backfill material is a potential concern for contaminant transport. According to the OU 8 Work Plan, location of boreholes is to be performed after the analysis of the Stage 2 data and presented in Technical Memorandum No. 2. Certainly, information from surface soil sampling, geophysical surveys, data compilation of tanks and pipelines, soil gas sampling, and radiological surveys will provide a better understanding of the nature and extent of potentially affected media so that boreholes can be positioned accordingly.

Additionally, Section 6.4.1.1 of the OU 8 Phase I RFI/RI Work Plan state that "... a site walk of the facilities and buildings in OU 8 will be conducted in an attempt to locate and determine the extent of the drains and determine optimum sampling locations." The Division construes this statement to include sampling of drain effluent and a determination of locations within an Individual Hazardous Substance Site where subsurface soil sampling can be performed to the extent warranted by the nature of the release.

The Department of Energy (DOE) must clearly state in the document the dual role to be served by this Technical Memorandum. To the extent the investigators can, at this time, aid the selection of borehole locations to be proposed in Technical Memorandum No. 2 they should do so in this document so that any insights into logical locations will not be lost.

Response
We do not agree that preliminary locations for boreholes should be made at this stage of the investigation. Information from the Stage 2 investigations of OU 8 should be integrated with the information presented, in this Technical Memorandum, and the complete data set used to locate boreholes. The Stage 2 investigations include the sediment and surface water sampling that are recommended in the Technical Memorandum No. 1 (this work is to be performed through OU 12); and the surface soil, surface radiological surveys, tank and pipeline data compilations, geophysics, and soil gas data collection efforts scoped in the RFI/RI Work Plan, as amended by Technical Memorandum 1.

3. *The focus of this Technical Memorandum has been lost. In Section 4.4, Sampling Recommendations, Buildings not Individual Hazardous Substance Sites are the focus of the recommendations. This is an OU 8 Technical Memorandum; therefore, the focus*

should be on sampling recommendations that will support characterization of the Individual Hazardous Substance Sites and nature and extent of contamination from the Individual Hazardous Substance Sites. The role of the foundations drains, if any, in respect to each OU 8 Individual Hazardous Substance Site should be clearly presented and discussed. This should include rationales to sample, or not sample, footing drain effluent based upon the nature of the release, the type and mobility of the contaminants of concern, and whether specific footing drains present opportune pathways for contaminant migration. This would also be a logical place to discuss potential borehole sites as suggested in General Comment #2.

Response
As discussed previously under the responses to the cover letter comments, in order to more fully integrate the Industrial Area investigations, the entire plant was investigated for the foundation drain study. The role of the foundation drains, with respect to the OU 8 Individual Hazardous Substance Sites has been examined in some detail within this Technical Memorandum and will again be addressed in more detail in Technical Memorandum No. 2 as input to the scoping of boreholes to be performed during Stage 3 investigations. Releases to footing drains would not be likely because they are not open to the surface except where they exit to an outfall. Therefore, biasing sampling locations on "the nature of the release" is not feasible. Also, placing boreholes without the benefit of the Stage 2 investigation results is not the sequence as outlined in the OU 8 Work Plan.

4. *A review of Figures 5 through 20 indicate either foundation or storm drains lay within the boundaries of some OU 8 Individual Hazardous Substance Sites. DOE should review the OU 8 RFI/RI Work Plan and determine if the paths these drains follow represent potential preferential pathways for contaminant dispersion and determine if soil borings are applicable adjacent to the drains.*

Response
As discussed above, borehole locations will be evaluated in light of this information, as well as the results of Stage 2 investigations, as part of Technical Memorandum No. 2.

SPECIFIC COMMENTS

Figure 10:
Figure 10 incorrectly identifies Individual Hazardous Substance Site 150.4 as Individual Hazardous Substance Site 118.1. Per Figure 2-3 of the OU 8 Work Plan Individual Hazardous Substance Site 118.1 is located adjacent to Building 701. Please correct Figure 10.

Response
The figure will be corrected.

Figure 11:
The northern portion of Individual Hazardous Substance Site 150.7 is not shown on a figure. Figure 12 is the logical choice to include all portions of the Individual Hazardous Substance Site. For consistency with the other Figures, Individual Hazardous Substance Site 118.2 should also be shown on Figure 12.

Response
A new figure will be added which shows these features.

Individual Hazardous Substance Site 123.1:
Individual Hazardous Substance Site 123.1 is not depicted on a figure; however, if there is potential influence from the storm drainage system it should be shown. Individual Hazardous Substance Site 123.1 is associated with a valve vault and ditch.

Response
There is no known influence of a storm drainage system on Individual Hazardous Substance Site 123.1.

Section 4.4:
DOE should provide complete rationales for the inclusion or exclusion of potential sample stations addressed in Section 4.4. The headings should be relative to OU 8 Individual Hazardous Substance Sites more so than the Buildings. It is the OU 8 investigation, not Under Building Contamination (UBC) of Decommissioning & Decontamination.

Response
As previously discussed, this Technical Memorandum is intended to serve the dual role of fulfilling OU 8 investigatory requirements and serving as a comprehensive reference for use in the investigation of other OUs as well as other purposes. In this light, we believe that the organization of this section is reasonable and appropriate. However, those recommendations relevant to OU 8 Individual Hazardous Substance Sites will be noted in the next draft of this Technical Memorandum.

Building 111:
(See Section 4, page 93 of 100) Information presented in Table 2, the first and second paragraphs of Section 3 (page 3 of 46), and Section 4.3.1 is noteworthy. Samples were collected previously from the outfall, as depicted in Figure 23 and 24 as recently as March 1992. However, when the outfall was not located, later that year, sampling ceased. Figures 23 and 24 indicate slight radionuclide and more abundant metals contamination as recently as 1992. Although not an OU 8 issue, DOE should be concerned about contamination around its administration building considering the apparent lack of manufacturing or processing within the building. DOE should follow-up on the possible outfall location reported by Jacobs Engineering Group, Inc. or the possibility that the drain discharges to the manhole west of Building 115 and, if located and flowing, collect a sample for analysis. Whether routine sample is resumed would depend on sample results. Therefore, the recommendation to stop sampling BS-111-2, Section 4 (page 93 of 100) may be appropriate, but complete elimination of sampling at Building 111 may be unacceptable. Please investigate and respond to the Division.

Response
A recommendation to the Surface Water Division will be made to locate the outfall, if possible, and continue sampling.

Building 371/374:
The monitoring and sampling recommendation for this Building is an example of how the focus has shifted to buildings versus OU 8 Individual Hazardous Substance Sites. Individual Hazardous Substance Site 188 is the site of a possible nitric and hydrochloric acid leak which may have contained heavy metals. The recommendation is made that sampling of FD-371-2 should continue, if flow is observed, and that a sediment sample should be collected for the OU 8 investigation. A foundation drain passes through the area occupied by the Individual Hazardous Substance Site; however, is the pipe slotted beneath the Individual Hazardous Substance Site? (In reviewing Figure 2-26 of the OU 8 Work Plan, the small buildings located within the Individual Hazardous Substance Site appear to be temporary structures that may post-date construction of the drain, or would not have required drains.) Unless the pipe is slot or breached, this sample station would provide more information on UBC than on Individual Hazardous Substance Site 188. Please examine available drawings to determine if the drain is slotted after it leaves the building. This is not a suggestion to drop the sampling, merely to recognize that it may, or may not, be of value to the characterization of the Individual Hazardous Substance Site.

Additionally, to the extent an acid spill may have carried and mobilized heavy metals, the potential for preferential pathways along the route of the drainage pipe is of interest and may help target boring locations in Technical Memorandum No. 2.

Response
After a re-review of the drawings for this building, it was determined that the footing drains located under the building are constructed of porous concrete pipe. Outfall 2 is not perforated under Individual Hazardous Substance Site 188. The outlet to outfall 3 is perforated once it leaves the building. Figure 7 will be modified accordingly. In addition, based on a review of Figures 53 and 54, the drain pipe beneath Individual Hazardous Substance Site 188, depending upon the time of year, may be under saturated or unsaturated conditions. This information, in conjunction with the data evaluation from the Stage 2 investigations, will be used to locate soil borings.

Building 444/447/460:
Reference should be made to Figure 9. The figure apparently does not depict the proposed location for FD-447-1; therefore, how can this recommendation be followed if exercised at a future date? There are no OU 8 Individual Hazardous Substance Sites in the immediate area; will DOE be spending OU 8 dollars on this proposed sampling effort?

Response
Footing drain FD-444/460 is depicted on Figure 2, this is the outfall for FD-447-1. Wherever this drain is referred to in the text, Figure 2 will be referenced accordingly.

Building 559:
(No impact upon OU 8 Individual Hazardous Substance Sites.)

Response
The effort was focused on the entire Industrial Area footing drains in order to integrate investigative efforts.

Building 707:
Reference Figure 10. (No impact upon OU 8 Individual Hazardous Substance Sites.)

Response
See previous response.

Building 771:
It appears that adding a sampling station at Manhole #3 will result in more information on Building 771 than it will the contamination in OU 8 Individual Hazardous Substance Sites 150.1, 150.2 or 172. However, since sampling is proposed at Manhole #3, and may be of value in characterizing UBC, why is no station proposed at Outfall 2 located to the west of Building 771.

Response
As stated in the text, outfall 2 has not been located. In addition, outfall 2 does not drain from Individual Hazardous Substance Site 150.1 and the northern part of Individual Hazardous Substance Site 172, where manhole 3 does. Manhole 3 also collects discharge from the storm drain which runs from east to west through Individual Hazardous Substance Site 172, and the footing drain which runs through Individual Hazardous Substance Site 150.2 from south to north to manhole 3. Therefore, the original decision to recommend sampling of manhole 3 still seems appropriate.

Building 774:
The rationale for sampling FD-774-1 is unclear in respect to investigation of OU 8 Individual Hazardous Substance Sites. Although FD-774-2 has been dry during sampling events, sampling the sediment at FD-774-2 relative to Individual Hazardous Substance Site 150.3 is appropriate. (The footing drain at the southwest edge of Building 774, Figure 11, is in potential contact with any leakage from process waste lines in the B771-774 tunnel.)

Response
Footing drain FD-774-1 is directly down gradient (ground water flow) from the Individual Hazardous Substance Sites located near western part of Building 771, and storm drains pass

through these Individual Hazardous Substance Sites. With respect to the tunnel between 771 and 774, additional foundation drains are suspected to exist along this tunnel. The tunnel and any further information regarding the foundation drains along the tunnel will be added to the new draft of the Technical Memorandum.

Building 779:
Reference Figure 13. The recommendation is to drop FD-779-1 from the sampling program since it is a storm drain. However, the storm drain actually passes beneath the southern portion of Individual Hazardous Substance Site 138. According to the OU 8 Work Plan, the reported spill at this portion of the Individual Hazardous Substance Site was 400 gallons of cooling tower effluent to a storm drain. Review of Figure 13 suggests that this is the storm drain in question; it emerges at FD-779-1. Figure 43 of the Technical Memorandum reports 25 ug/l gross alpha and 12 ug/l gross beta in September 1989. Analysis of the cooling tower water at the time of the spill was 50 mg/l chromium and 3,000 dpm/l alpha activity. This is an example of how the Technical Memorandum is improperly focusing on buildings and foundation drains rather that investigation of the Individual Hazardous Substance Sites.

Response
Figure 13 will be referenced. The recommendation to sample FD-779-1 will be added to the Technical Memorandum.

Buildings 850, 865, 886, 881, and 883:
(No impact to OU 8 Individual Hazardous Substance Sites).

Response
See response to Building 559 above.

Building 998/991:

The foundation drain may have value to the investigation of Individual Hazardous Substance Sites 173 and 184 pending determination of the locations and discharge point for the drain. The Division disagrees with DOE's conclusion that no further sampling is needed, if the foundation drain is connected to the sewage treatment plant. Steam cleaning of parts containing radionuclides at Individual Hazardous Substance Site 184 is discussed in the OU 8 RFI/RI Work Plan. The reference to Figure 18 should be to Figure 19 as presently shown. It appears Figure 18 and 19 were switched.

Response
Both figures 18 and 19 will be referenced in the section. Additional information, if any, obtained from review of the CCTV documentation regarding the discharge of the this foundation drain will be added to the Technical Memorandum.

Buildings 910, 995, 996, 997, and 999 (No impact to OU 8 Individual Hazardous Substance Sites):

Response
The appropriate figures will be referenced. See response to Building 559 above.

Finally, regarding an issue raised by CDPHE during the OU 8 RFI/RI Work Plan approval negotiations, an on-site meeting between DOE, EG&G Rocky Flats, JEG, and CDPHE was held on October 13, 1994. The purpose of the meeting was to select the type and locations of samples for Individual Hazardous Substance Site 172. Following presentation and discussion of EG&G Rocky Flats/JEG's preliminary sample locations, it was decided among the participants to drop one proposed vertical soil profile sample and add an under-asphalt surficial soil sample by the west dock of Building 774. The sampling plan, as modified in the meeting, was accepted by all the participants and will be incorporated into the next draft of Technical Memorandum 1.