Revised 12/03

CORRES. CONTROL
INCOMING LTR NO.

01127 RF 03

DUE DATE

ACTION

DIST.	LTR	ENC
BERARDINI, J.H.	X	X
BOGNAR, E.S.	X	X
BROOKS, L.	X	X
BUTLER, L.	X	X
CARPENTER, M.	X	X
CROCKETT, G. A.		
DECK, C. A.	X	X
DEGENHART, K. R.		
DIETER, T. J.		
DIETERLE, S. E.		
FERRERA, D. W.	X	X
GIACOMINI, J. J.		
LINDSAY, D. C.	X	X
LONG, J. W.		
LYLE, J. L.		
MARTINEZ, L. A.	X	X
NAGEL, R. E.	X	X
NESTA, S.		
NORTH, K.	X	X
PARKER, A. M.	X	X
RODGERS, A. D.		
SHELTON, D. C.	X	X
SPEARS, M. S.		
TRICE, K. D.		
TUOR, N. R.	X	X
WIEMELT, K.		
WILLIAMS, J. L.		
ZAHM, C.	X	X

COR. CONTROL	X	X
ADMIN. RECORD	X	X
PATS/130		

Reviewed for Addressee
Corres. Control RFP

12/29/03 Date By

Ref. Ltr. #

DOE ORDER #
5400.1

RECEIVED
2003 DEC 29 P 2:37
CORRESPONDENCE CONTROL

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

http://www.cdphe.state.co.us

Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department
of Public Health
and Environment

December 18, 2003

Mr. Joseph Legare
Assistant Manager for Environment and Stewardship
U.S. Department of Energy
Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, Colorado 80403-8200

RE: Approval, Data Summary Report, IHSS Group 400-3 (Building 444, 447 et. al.), dated November 2003

Dear Mr. Legare:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the Division) approves the Data Summary Report and, as a consequence, No Further Accelerated Action (NFAA) for IHSS Group 400-3.

The Division notes the existence of arsenic, lead, beryllium, and uranium (total) at levels exceeding RFCA ecological action levels. It is understood that these exceedances will be carefully evaluated through the sitewide Accelerated Action Ecological Screening Process and the Comprehensive Risk Assessment (CRA) to determine whether an eco-specific action becomes necessary within IHSS Group 400-3.

Additionally, the Division agrees that the forthcoming sitewide ground water IM/IRA is an acceptable means to address concerns regarding any potential of a ground water pathway for beryllium or chlorinated solvents that might be generated from the vicinity of IHSS 182. Surface and subsurface soils show that organic constituents are present at low levels. However, the investigation of IHSS 182 was not extended to a depth sufficient to detect the potential presence of dense non-aqueous phase liquids (DNAPL) that may constitute the source of a Tier I plume originating in the area, and that may impact surface water in the future.

Due to the elevated levels of lead and beryllium found during the UBC investigation, special attention needs to be paid when removing the slab for any indication of contaminant migration pathways through the slab, such as staining along cracks in the slab. If indications of possible contamination are identified, additional soil samples may need to be collected for metals and radiological analysis.

The Division's comments, discussed at a resolution meeting on December 12, 2003, are attached to support the Administrative Record. Verbal comments on a subsequent electronic version were resolved in a series of telephone conversations between staff on December 17, 2003. Therefore, please submit a final, hard copy, of the document for final verification and filing.

If you have any questions regarding this correspondence, please contact me at (303) 692-3367, Harlen Ainscough at 303-692-3337, Elizabeth Pottorff at 303-692-3429 or David Kruchek at 303-692-3328.

H:\400-3 IHSS Group DSR Approval.doc

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Colorado Department of Public Health and Environment

Hazardous Materials & Waste Management Division

Comments

Draft Data Summary Report

IHSS Group 400-3

(Buildings 444 & 447, et. al)

November 2003

Specific Comments:

1. **Section 2.0:** A CD containing the project's real and quality control data was omitted from each of the three copies provided to the Division. Please submit the data.

2. **Figure 3-6:** Please show the OPWLs and foundation drains on each of these figures. Discuss in the appropriate section(s) how biased samples that had to be moved, if any, impacted the investigation plan.

3. **Figure 3:** Please show BY 37-027 as co-located with BY37-003 and show the resulting data.

4. **Figure 5 & 6:** IHSS 182 results indicate the presence of chlorinated organics in the surface and sub-surface soils. Section 3.1.1, Characterization of IHSSs, PACs and UBC Sites, of the IABZSAP in Study Boundaries 3 states, "Soil will be considered from the land surface to the top of the saturated zone or top of bedrock, as appropriate." In Decision Rules 3. "If each PCOC has been adequately documented with respect to concentrations and three-dimensional locations for IHSSs, PACs, or UBC Sites, the nature and extent are adequately defined. Otherwise PCOCs have not been adequately characterized, and additional sampling and analysis are necessary." The Division remains concerned that contaminated ground water was sourced from, or adjacent to, this IHSS but that investigations to date have not adequately identified the source. Ground water Tier I levels of VOC are known at well 40099. Depth to ground water in this area is about 17 feet. The low levels of PCE in sample locations BX36-002 and – 003 at 0.5 to 2.5 indicate VOCs may be present and could be at higher concentration at greater depth. The soil in this IHSS has not been adequately characterized to a depth consistent with the known transport behavior of PCE in soil. RFETS must address this issue in the context of this investigation.

5. **Table 2:** For each biased sample location, if any, relocated more than three feet from a planned location; please provide a basis for accepting the new location in respect to the specific objective(s) of the sample point.

6. For each statistical sample, if any, relocated more than 10 feet from its planned location evaluate whether adequate statistical coverage has been maintained. For example, BY37-011 was relocated 18 feet east and 49 feet north of the proposed position (see northeastern corner of UBC 444.)

7. page 12, The "B" interval of locations BX36-008, BY37-016, BW 35-002 and BW 35-004 were omitted due to refusal of the drilling equipment. If the "B" interval was soil, mechanical limitations are not justification for eliminating the sampling effort. Samples should be collected from the interval when equipment equal to the task can be used. This may require that the effort be delayed until the building is demolished. In the interim, the Division believes that data from the surficial interval, 0.0-0.5 feet, should be used to justify NFAA relative to the soils represented, not "refusal."

8. page 13, BW-36-006 was relocated due to "concrete slab interference" Please provide more specifics on the nature of the interference.

9. **Section 2.1:** In the last paragraph, please change "samples" in the second sentence to read "sample." Only one water sample appears to have been collected.

10. **Section 3.0, Screen 1:** The lead exceedance used to answer the screen is for the surficial sample, 0.0 – 0.5 feet of BY37-003. It thus appears that the correct response should be, "No" since the subsurface sample did not exhibit a detection for lead. The paragraph discussing BY37-003 should be removed or modified unless BY37-027 included a sub-surface sample. If there are other subsurface samples with lead values above the WRW they, not BY37-003, should be used as the supporting example. Please re-evaluate the data.

11. **Screen 4:** The last paragraph of the screen fails to convey the continuing potential for beryllium to impact surface water. Since beryllium is still being detected in the sump below the basement of Building 444 at exceedance levels, the inability of the existing ground water monitoring wells to detect the constituent, or at the present time, does not ensure against a future impact. Consequently, the Integrated Monitoring Plan may need to be upgraded or expanded not merely "continued" as suggested.

12. **Screen 5:** It should be noted that lead values are generally below background. (Please determine whether any lead values are above background.)

13. **Section 4.0:** In respect to the ecological contingency noted in Screen 5, the summary must clearly state that an NFAA decision is relative to human health only. It should be noted that the Accelerated Action Ecological Screening Process will determine whether a soil removal action is later necessary to protect ecological receptors. This caveat may be added to the paragraph following the first set of bullets on page 64.

14. **Section 5.0:** Comment Nos. 5, 6 and 7 reflect the Division's concerns that the collection of samples has not been accomplished in accordance with the sampling design. Even if the sampling is shown to be adequate, it is not appropriate to state that they were according to design. Please revise the statement to reflect an "as built" perspective.

15. **Section 5.2:** The Division is concerned that the V&V process apparently did not result in a corrective action(s) in respect to Comment No. 20. etc. When project goals are not initially met, the V&V process should ensure that they are eventually met or a well-documented basis for a subsequent waiver of a requirement is established. Additionally, were the data in question flagged, if not why not? Please address.

16. **General Comment, Section 5.3 and 5.4:** The report appears to place more emphasis on whether QC frequencies have been met and less emphasis on whether the QC results show the data to be accurate and precise in respect to site conditions. When required QC frequencies were not met, see Comment No. 20, it appears that nothing was done to correct the deficiencies. When QC limits were not met, see Comment No. 17 or 19, the significance was weakly rationalized rather than corrected through sample re-run or re-collection. Please address these two observations and the concerns over data quality that result.

17. **Section 5.3, Sample Matrix Spike Evaluation:** On page 71, the statement is made that some recoveries "appear to be low, [but] did not result in the rejection of any data." Table 12 shows a minimum recovery for Napthalene of "-72.87" percent recovery. Such a value, if factual, suggests that napthalene values associated with this matrix spike would have been grossly under reported. Why is this perspective not considered? Why were the samples accepted rather than being rerun under a laboratory corrective action? The constituent 1,1,2,2 –Trichloroethane had one value at 7.486, is this not also below the typical rejection threshold of 10% recovery? Aluminum, iron and manganese were at 0% recovery perhaps due to matrix effects. Other constituents had values above a 10% recovery threshold but warrant consideration as low-biased results that should be compared more carefully to the respective ALs. Please evaluate these conditions and address accordingly.

18. **Table 12:** Some constituents, i.e. 1,1 – Dichloroethene show fewer laboratory samples than laboratory batches. Please evaluate or explain this condition.

19. **Section 5.4, Matrix Spike Duplicate Evaluation:** On page 73, the statement is made that some RPDs "appear to be high." Table 13 shows a RPD for Napthalene of 2442 percent as a reflection of the negative value in Table 12. Numerous other values exceed the typical RPD threshold of 35 percent. Please demonstrate, not merely state, why such irregularities have not impacted data quality relative to project decisions.

20. **Section 5.4, Field Duplicate Evaluation:** On page 75, the statement is made and confirmed by Table 14, that field duplicate frequencies were inadequate, e.g. below 5%, for gamma radionuclides, metals and PCBs. That being the situation, why have these deficiencies not been corrected through resampling to bring the investigation into compliance with the IABZSAP?

21. The last paragraph on page 75 is confusing and exhibits an element of circular logic. For example, it is stated that project decisions were based only on analytes that exceeded ALs, but the RPDs shown in Table 15 suggest that reliability of the investigative data are questionable. A more definitive basis must be presented that the exceedances of the 35% RPD threshold are acceptable.

22. On page 76, the last sentence preceding Table 14 states that "...sampling precisions has been exceeded." Please modify the statement as it conveys the impression that precision was of high caliber. It should state that the precision was sub par, or that the 35% criterion was exceeded.

23. **Section 5.6:** Why are the field duplicate inadequacies for gamma spectroscopy, metals and PCBs, see Comment No. 20, omitted from the summary? Why is there no consideration of the potential impact on the quality of these data? Please address.

24. In addition, why is there no discussion of low-bias results, see Comment No. 17? The absence of rejected data is not the only measure of data quality. Please address.