

**Meeting Date/Time**            January 9, 1995/0830

**Meeting Location.**            Advanced Sciences, Inc (ASI), Lakewood, CO

**Meeting Subject.**            Resolution of Comment Responses on Contaminants of Concern (COC) TM, Operable Unit No 5, Rocky Flats Environmental Technology Site

<b>Attendees</b>	<b><u>Name</u></b>	<b><u>Affiliation</u></b>
	Carol Bicher	EG&G
	Win Chromec	EG&G
	Robert Cygnarowicz	EG&G
	Doug Dennison	ASI
	Mary Lee Hogg	ICF Kaiser
	Scott Hollowell	EG&G
	Mike Kelly	Dames & Moore
	Bonnie Lavelle	EPA
	Theresa Lopez	PRC
	Diane Niedzwiecki	CDPHE
	Rotha Randall	EG&G
	Mary Siders	EG&G
	Steve Slaten	DOE/RFFO
	Carl Spreng	CDPHE

Copies of materials that handed out during this meeting were the comment response sheets (Attachment 3), the viewgraphs (Attachment 4), the revised Appendix A, and revised professional judgement sections for each medium. Copies of the latter two items are not attached, but will be copied to the Administrative Record.

**Introduction-** C Bicher restated the purpose of this meeting, the critical nature of the schedule for finalizing the COC TM, and presented the meeting agenda (Attachment 2)

**A    Open Issues from December 7, 1994 Data Aggregation Meeting**

- 1    C Bicher -** Discussed the open issues from the December 7, 1994 data aggregation meeting. The first issue concerns CDPHE's agreement to address the Surface Disturbance West of IHSS 209 in the uncertainty analysis portion of the risk assessment. Discussed that in phone conversation with Joe Schieffelin, he indicated that he agreed with this approach.

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**D Niedzwiecki** - Confirmed that she had a similar discussion with Joe Schieffelin in which he also stated agreement with this approach

2. **C Bicher**- The second issue concerns CDPHE's agreement to the streamlined risk assessment approach to the Original Landfill (IHSS 115/196) resulting from the presumptive remedy approach. Discussed that in a phone conversation with Joe Schieffelin, he indicated that, if the presumptive remedy is the appropriate approach for the Original Landfill, he agreed with the streamlined risk assessment

**D Niedzwiecki** - Confirmed that she had a similar discussion with Joe Schieffelin in which he also stated agreement with the streamlined risk assessment

**C. Bicher** - Discussed that it appears, however, that it may be more prudent to continue with a traditional baseline risk assessment (BRA) for IHSS 115/196 due to the cost and time required to adjust the risk assessment at this point in the process

**B Lavelle** - Stated that she did not feel that this approach is appropriate. If MCLs are exceeded, there is no need for a traditional BRA

**B Cygnarowicz** - Explained that new geologic characterization work has indicated that there is the potential that a fault exists in the area of the Original Landfill which may preclude the presumptive remedy approach. It may be more prudent to proceed with the traditional BRA and analysis of remedial alternatives until such time it is determined whether a fault exists and, if it does, how it may impact remedial decisions

**B Lavelle** - Discussed that the risk assessment needs to answer two questions: 1) Do we need to do anything to remediate a site? and 2) If so, what drives the risk at the site? It may be helpful for the Feasibility Study (FS) to analyze other alternatives

**B Cygnarowicz** - Discussed that the RI and FS teams will begin to work more closely together and discuss potential remedial alternatives

**D Niedzwiecki** - Stated that Joe Schieffelin has expressed a desire to allow some flexibility in risk analysis

**M.L. Hogg** - Questioned whether analysis of residential exposure at the Original Landfill could be viewed as a bounding risk

**B Lavelle** - Stated that EPA Region VIII would rather look at a reasonable maximum exposure. We need to look at realistic exposure scenarios

**D. Niedzwiecki** - Questioned whether a risk assessment is really necessary at the Original Landfill

**W Chromec** - Stated that due to uncertainties regarding the presumptive remedies at the landfill, it would be better to proceed with a traditional BRA

**M. Siders** - Discussed how stratigraphic marker beds have been used to identify potential faults Discussed the investigation of a fault in OU7 using trenching and that any investigation of potential faults requires trenching or borings

**C Bicher** - Discussed that the geotechnical drilling project ongoing at the Original Landfill will provide additional information for identification of potential faults

**B Cygnarowicz** - Restated that the presumptive remedy is still a remedial option for the Original Landfill but may not be the only option In order to address all possible scenarios, some additional effort spent on the BRA now may result in less time expended overall

**C. Bicher** - Stated that the most conservative approach would be to proceed with the BRA

**B Lavelle** - Agreed that this would be the most prudent approach but desires that the most reasonable maximum exposure scenario(s) be considered If a residential scenario is reasonable, it should be included

**B Cygnarowicz** - Stated that the presumptive remedy report will include a DSA-level analysis of alternatives

**B. Lavelle** - Questioned whether planned exposure scenarios for the Original Landfill are included in the revised draft final Exposure Assessment TM (EATM)

**C. Bicher** - Stated that the revised draft final EATM does address exposure scenarios for the Original Landfill

**B Lavelle** - Questioned whether anyone from EPA is working with EG&G on the identification of potential faults

**C. Bicher** - Stated that she would contact Connie Dodge, EG&G, to determine whether anyone from EPA is currently involved with this project

**B Cygnarowicz** - Discussed the result of the trenching performed in OU7 Stated that wells near the trench were dry, but when the trench was constructed water was found

within the fracture Discussed that similar conditions could be present in OU5 and that the potential exists for a contaminant migration pathway

- 3 **C. Bicher** - Discussed the remaining open issue which concerns the amount of surface water and sediment data that have been included in the data set evaluated for OU5

**D. Dennison** - Confirmed the discussions from the December 7, 1994 meeting that, to a limited extent, data from site-wide programs and other OUs was used Data that was collected from these programs during the same time span as the OU5 sampling program was used

**B** Comments on Draft Final COC TM

- 1 **D Dennison** - Discussed the approach used in responding to comments received from EPA and CDPHE on the draft final COC TM This approach consisted of addressing each of the agency's comments on comment response forms (Attachment 3) and providing revised text for those sections dealing with the selection of PCOCs (see Attachment 4 for the viewgraphs which summarize the text revisions) This approach was used because the selection of PCOCs is the area where most discussion occurs Once the PCOCs have been selected, the determination of COCs is relatively straight forward

**B Lavelle/D. Niedzwiecki** - Stated that they would like to review the comment responses for a few days before stating agreement to the responses

**M Kelly** - Discussed the comments received from EPA and CDPHE specific to the concentration toxicity screens The responses to these comments are provided in Attachment 3 Discussions specific to particular comments is provided below

**B Lavelle** - In regard to EPA's comment concerning the cancer slope factor (CSF) for arsenic (second comment on Page 1 of 8, Attachment 3), questioned what is the issue

**M L Hogg** - The CSF recommended by EPA, 50 (milligrams per kilogram-day)<sup>1</sup>, is appropriate for use in forward calculations of risk, but the value of 15 (milligrams per kilogram-day)<sup>1</sup> used in the COC TM is more appropriate for use in concentration toxicity screening This is due to the fact that absorption cannot be easily addressed in the concentration toxicity screen

**B. Lavelle** - Stated that she would consult EPA's toxicologist, Dr Chris Weiss, regarding this issue

**M. Kelly** - Discussed the response to EPA's comment regarding the treatment of potential COCs without toxicity values. This response proposes that these chemicals will be addressed in the uncertainty analysis portion of the risk assessment.

**B. Lavelle/D. Niedzwiecki** - Agreed with this approach.

- 2 **D. Dennison** - Discussed the statistical evaluation of data and the identification of PCOCs (See Attachment 4 for details of this discussion). Discussed that, in response to comments received from EPA and CDPHE, the professional judgement (i.e., spatial, temporal, and geochemical evaluations) step was now performed prior to the concentration toxicity screens. Also discussed that the statistical analysis of the data was reevaluated to address the issue of detection frequency (if less than 20% detected values were present in either the background or OU5 data sets, no statistical test were performed) and to confirm the conclusions made previously based on this analysis.

**B. Lavelle** - Questioned whether the 20% detected values criteria for the performance of the statistical tests is consistent with Dr. Gilbert's recommendations.

**D. Dennison** - Stated that, in his letter report, Dr. Gilbert does not recommend a minimum frequency of detection for the performance of all statistical tests but does have such criteria for some of the individual statistical tests. Also stated that Dr. Gilbert and many other authors generally recommend that a greater frequency of detection, in the range of 40 to 50%, is necessary to get valid results from most statistical tests. Stated that the Gehan Test appears to give suspect results when there is a large number of non-detects. Reiterated that when data were lacking to justify the elimination of a particular constituent as a PCOC, a conservative approach was used, and the constituent was retained for further evaluation. Presented the results of the statistical evaluations for each medium as discussed below (see Attachment 4 for detail).

### Surface Soils

No discussion regarding the statistical evaluations.

### Subsurface Soils

**B. Lavelle** - Discussed that manganese is considered to be an essential nutrient by EPA if the concentration does not exceed the recommended daily allowance. Stated that this argument could be used to eliminate manganese as a COC, if necessary.

### Groundwater

No discussion regarding the statistical evaluations.

### Surface Water

No discussion regarding the statistical evaluations

### Seep Water

No discussion regarding the statistical evaluations

### Pond Sediments

No discussion regarding the statistical evaluations

### Seep Sediments

No discussion regarding the statistical evaluations

### Stream Sediments

**M L. Hogg** - Questioned whether the relatively high result for tritium in a sample from the South Interceptor Ditch (SID) was qualified

**D Dennison** - Stated that he would check the qualifiers for this sample (Subsequent to this meeting, the qualifiers were checked. The sample was qualified by the validation contractor as being acceptable with the following qualifications - 1 Replicate precision criteria were not met, 2 Lab control samples > +/- 3 sigma, and 3 tSIE criteria were not met )

- 3 **D Dennison** - Discussed the approach used in revising the COC TM in response to comments received from EPA and CDPHE regarding professional judgement. Stated that the COC TM was revised to reference TM15 which has numerous maps and other figures that support the discussions of PCOCs. Also reiterated that the professional judgement sections of the COC TM were moved to the beginning of the sections of the TM discussing each medium. Also stated that, as with the statistical evaluation, a conservative approach was used in applying professional judgement. In the absence of adequate evidence to support the elimination of a chemical as a PCOC, the chemical was retained. Stated that essential nutrients, calcium, iron, magnesium, potassium, and sodium, were eliminated as PCOCs for all media. Presented the results of the professional judgement evaluation for each medium as discussed below (see Attachment 4 for details)

### Surface Soils

No discussion regarding professional judgement

### Subsurface Soils

No discussion regarding professional judgement

### Groundwater

**D Dennison** - Discussed that the limited number of groundwater samples precludes meaningful spatial and temporal evaluations of the data

**M Siders** - Recommended that the number of samples (N) represented by the data presented on Table 5-1 be included in the table

### Surface Water

**B Lavelle** - Questioned how many samples were averaged for the information presented on Figure 6-1

**D Dennison** - Stated that at each sampling location, two low-flow and one high-flow sampling events were represented

**B Lavelle** - Stated that patterns of data during low and high flows will be discussed further in the EE

### Seep Water

**D Dennison** - Stated that no chemicals were identified as being present in concentrations exceeding background by the statistical analysis, therefore, no professional judgement was employed

### Pond Sediments

No discussion regarding professional judgement

### Seep Sediments

No discussion regarding professional judgement.

### **Stream Sediments**

No discussion regarding professional judgement

- 4 **C. Bicher** - Stated that it was assumed that EPA and CDPHE would like to have time to review the comment responses and questioned the time-frame for receiving comments from the agencies

**B Lavelle** - Stated that EPA would try to respond by Friday, January 13, or Tuesday, January 16

**B Lavelle** - Questioned whether the revisions to the COC TM will affect the CDPHE letter report

**C Bicher/M Kelly** - Stated that, at this time, these changes are not expected to affect the CDPHE letter report

**Summary** - The following action items resulted from this meeting

- 1 Carol Bicher, EG&G, agreed to contact Connie Dodge, EG&G, to determine if anyone from EPA is participating in the identification of potential faults
- 2 Bonnie Lavelle, EPA, agreed to contact Dr Chris Weiss, EPA, regarding the appropriate slope factor to be used in the concentration toxicity screen for arsenic
- 3 EPA and CDPHE agreed to review the responses to their comments on the COC TM and provide any additional comments