RESPONSES TO COMMENTS
DRAFT WORK PLAN TECHNICAL MEMORANDUM
OPERABLE UNIT NO 7

R. Roberts, EG&G

General Comments

Comment A The Data Quality Objectives (DQOs) as outlined in Section 5 were meant to be the foundation of the entire document. The background comparison as well as the Nature and Extent (N&E) of contamination would then be developed based on the DQOs. In this fashion, a direct link could be made between the background comparison and N&E determination and the conclusions in the DQOs. As the document is written, the background comparison and the N&E determination are not based on the DQOs. This is readily apparent in Section 4 1 1, "Data Aggregation for Background Comparisons at OU 7", where none of the data aggregation rationale are based on the DQOs. This is extremely important because many of the data aggregation units discussed for the TM were based on the way data would be evaluated within the DQO process A direct link between the DQOs and the evaluations performed in the background comparison and the nature and extent determination needs to be made.

Response: Data Quality Objectives (DQOs) outlined in Section 5 are the foundation of the RFI/RI activities at OU 7 and were developed cooperatively with personnel from the regulatory agencies, DOE, and EG&G. The OU 7 Revised Work Plan integrates the existing data, background comparisons, and determination of the nature and extent of contamination within the context of the DQOs to develop the scope of the Phase II RFI/RI.

Aggregation of data for background comparisons was based on scientifically defensible rationale and therefore supports rather than conflicts with the DQOs for OU 7

Comment B: There is no way to verify the UTL comparisons made in the report. The magnetic disk provided in Appendix M does not give UTLs in a form that are readily useable, and tables are not provided that list the UTL with the maximum concentration present.

Response: The document will be modified to include the UTLs

Comment C: Many of the background comparisons that were supposed to be performed in the report were not performed. For instance, the 0-2 inch and 0-10 inch surface soil samples were not aggregated as a single unit and compared to background, and these two data sets were also not compared to each other These evaluations were discussed and agreed to by EG&G and Stoller and were suppose to be in the report It is unfortunate that these comparisons were not performed because the utility of performing each type of sampling cannot be assessed. Since this comparison was not performed, both 0-2 and 0-10 inch samples are required in the Sampling and Analysis Plan A simple background comparison could have eliminated one type of surficial soil sample

Response: The report presents only the statistical comparisons that are scientifically defensible, meaningful to the RFI/RI objectives, or specifically required by "Statistical Comparison of Site-to-Background Data in Support of RFI/RI Investigations" (EG&G 1994) As discussed on page 4-2 and 4-3 of the work plan, "soil samples collected from two different depth intervals at the East Landfill Pond and IHSS 203 are not considered directly comparable" Therefore, aggregation of the 0-2 inch and 0-10 inch surface soil data sets into one data set for statistical comparisons is not scientifically defensible and would not allow elimination of one type of surface soil sample using credible professional judgement.

Comment D: The TM only applies professional judgement to contaminants in surface soil that are statistically significant Should professional judgement be applied to sediments, ground water and surface water as well ? Chemicals, metals, and radionuclides could be eliminated from these media if a good spatial and temporal evaluation are made The analysis would include a qualitative comparison with pre-1990 data Also, the application of professional

judgement needs to be well documented. There are currently no text or figures present in the TM that support the professional judgement for surficial soils. The only thing that shows that professional judgement has been applied is a comment in the text saying that the contaminant is not spatially correlated. This is insufficient justification to eliminate contaminants based on professional judgement

Response: Identification of PCOCs in OU7 environmental media was performed in accordance with "Statistical Comparison of Site-to-Background Data in Support of RFI/RI Investigations" (EG&G 1994). This methodology includes five statistical tests for comparing site data to background data followed by professional judgement to interpret the statistical results The degree to which professional judgement was applied to eliminate PCOCs from further consideration in the RFI/RI depended on the intended data use As discussed below, data to support the Baseline Risk Assessment were scrutinized more closely than data related to the landfill, which will be closed in accordance with the Environmental Protection Agency's presumptive remedy approach

As noted by the reviewer " media of surficial soils around the East Landfill Pond (ELP) and the ELP sediments are the only media to be assessed in the OU 7 risk assessment." For these media, professional judgment was used to interpret the statistical findings and, where appropriate, eliminate potential contaminants of concern (PCOCs) from further consideration in the risk assessment. This approach is consistent with EPA's Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (EPA 1991)

However, for the other media at OU 7, an attempt to eliminate PCOCs from further consideration is not warranted because a risk assessment will not be performed, and a specific list of contaminants will not drive the decision to remediate. Instead, certain remedies are presumed to be appropriate based on historical patterns of remedy selection for other similar sites. EPA's Presumptive Remedy for CERCLA Municipal Landfill Sites (EPA 1993) states that " a quantitative risk assessment that considers all chemicals, their potential additive effects, etc, is not necessary to establish a basis for action

if data are available to demonstrate that contaminants clearly exceed established standards or if other conditions exist that provide a clear justification for action." Therefore, elimination of a few PCOCs on the basis of professional judgment will have no impact on the presumptive remedy process.

The statement that sample locations exhibiting statistically elevated analyte concentrations are not spatially correlated is supported by eleven figures (Figures 4-17 through 4-27). These figures display analytes in surface soils that most frequently exhibit statistically elevated concentrations and are, therefore, most likely to show spatial correlation. The document will be modified to better reference these figures

Comment E: For all media sampling activities required in the Sampling and Analysis portion of the TM, the text states that the same analyte list will be used as was used for the Phase I RFI/RI. Why are we using the same list of analytes in this revised Work Plan as was used for the Phase I RFI/RI ? The whole purpose for performing background comparison and N&E evaluation is to delineate those chemicals, metals, and radionuclides that need to be addressed further It looks like the reduction in chemicals seen in the background comparison and N&E evaluation did not transfer to the Sampling and Analysis Plan

Response: The analyte lists for the Phase I and II RFI/RIs will be identical for a variety of reasons, including data comparability, establishment of temporal trends, and consistency with sitewide programs.

Data quality is assessed in terms of precision, accuracy, representativeness, comparability, and completeness (i e , PARCC parameters) The analyte lists for the Phase I and II RFI/RIs are designed to be identical to ensure that data are comparable. This is especially warranted for samples that are being analyzed to verify previous analytical results, establish temporal trends, or, in the case of new sampling locations, determine the presence or absence of contamination. Sampling performed for sitewide programs also share the objectives of determining the presence or absence of contamination and

establishing temporal trends. Identical analyte lists allow data comparability to meet these shared objectives.

Additionally, PCOCs representing all of the major target analyte groups (i e , metals, radionuclides, VOCs, and SVOCs) were identified in most environmental media at OU7 making any significant reduction of the analytical suite impractical.

Specific Comments

Comment: Section 5.4 7 1, Page 5-10. It is not appropriate for this document to delineate the extent of an exposure unit. Please delete the reference to exposure units

Response: The document will be modified as requested

Comment: Section 5 4 7 1, Page 5-10. It is not appropriate to identify ARARs as a comparison in a risk based evaluation. Risk-based Preliminary Remediation Goals (PRGs) are the appropriate basis for comparison.

Response: As described in Section 5 4 7, ARARs, TBCs, and draft PRGs were used solely for the purpose of estimating sample sizes or identifying areas where verification sampling is warranted.

Comment: Section 5 4 7 1, Page 5-10. The purpose for the Programmatic PRG document referenced has been changed by DOE Therefore, the programmatic PRG document is currently being extensively revised and is not available for general use Therefore, this evaluation will either need to rely on an OU7 derived PRG or need to wait until June when the revised draft document will be available

Response: At the direction of the EG&G CTR, sample sizes for potential contaminants of concern were estimated using ARARs and TBCs or draft PRGs when an ARAR was not available.

Comment: Section 5 4 7 2, Page 5-11 There is no basis given for the statement "The existing data are sufficient and adequate to support a risk assessment and

determine the need to remediate." It is insufficient to state this without a detailed basis. The CAMU concept is not that well understood.

Response: This statement has been deleted from the document.

Comment: Section 5 4 7 2, Page 5-11. It is not appropriate to identify ARARs as a comparison in a risk based evaluation. Risk-based Preliminary Remediation Goals (PRGs) are the appropriate basis for comparison.

Response: See response to previous comment.

Comment: Section 5 4 7 2, Page 5-11. It is not understood where sediment PRGs came from The Programmatic PRG document referenced does not contain sediment PRGS, and sediment PRGs are not going to be developed in the revised Programmatic PRG document OU7 specific PRGs will need to be derived for sediment Also, it is my understanding that sediment PRGs would not be needed for this task since we knew that further characterization of the pond sediments was needed.

Response. The document will be revised to indicate that (1) soil TBCs and draft PRGs were used as the standards for pond sediments because no standards currently exist for pond sediments, (2) TBCs and draft PRGs were used strictly for the purpose of estimating sample sizes, and (3) TBCs and draft PRGs for soil are appropriate because pond sediments will be more similar to soil than any other media once the pond has been drained. The need to develop OU7-specific PRGs for East Landfill Pond sediments to further support remedial decisions will be assessed later

Comment: Section 5.4 7 2, Page 5-11 The text states that "Given the magnitude of these exceedances, it is not likely that additional data will affect the decision to remediate pond sediments because the available data already strongly support a decision to take remedial actions, no additional sampling and characterization of pond sediments is recommended." I do not agree with this statement because the extent of contamination is not taken into account When one remediates, the extent of the remediation must be delineated. The use of three sediment samples to delineate the extent of remediation needs

to be evaluated. Also, since sediment PRGs along with their basis have not been defined, it is premature to make conclusions concerning sediment remediation.

Response: The extent of contamination in East Landfill Pond sediments has been assessed on the basis of chemical data and professional judgment. Chemical data indicate that analyte concentrations for numerous PCOCs (Table 4-18) significantly exceed TBCs and draft PRGs for soil, the most closely related media to pond sediments Chemical data also indicate that there are no strong chemical gradients from the leachate seep toward the pond embankment. This indicates that the pond is well mixed and contamination of pond sediments is widespread. Chemical data and professional judgment lead to the conclusion that delineating a portion of the pond sediments that do not pose a risk and thus do not require remediation is extremely unlikely from a technical perspective and, therefore, unlikely to be approved by the agencies The areal extent of contaminated pond sediments is considered to be well delineated by the shoreline of the pond as defined by the high-water level in addition to adjacent surface soil samples, some of which were located at the water's edge Additional characterization of the vertical extent of contamination will be performed after the pond has been drained

Comment: Section 6 2, Page 6-2. It is not understood why both 0-2 inch and 0-10 inch samples are needed to support a risk assessment. 0-2 inch are sufficiently at the rest of the OUs The use of both these types of samples needs to be assessed

Response: The use of both 0-2 inch and 0-10 inch samples has been assessed and is discussed in Sections 4 1 1, 4 3, 5 4, and 6.2 and summarized in Table 4-1 Data will be used to assess the nature and extent of contamination, and, where appropriate, support the risk assessment

R. Lindberg, ES&H, EGD

Specific Comments

Comment: Page i, Paragraph 3. The third paragraph say over simplistically that tritium and strontium were detected in the landfill leachate in 1973. So what ? Low levels of tritium are detected routinely all over Rocky Flats in surface water and groundwater The real issue at OU7 in 1973 was that elevated levels of tritium were found in leachate approaching activities of 300,000 pCi/L! The source of this tritium was located and removed The Executive Summary should probably reflect some of this significant historical information. The text on tritium on the bottom of page 1-9 also fails to mention this until pages 1-14 and 1-15 The latter pages don't appear to discuss removal of the source

Response: The document will be revised and will specify tritium activities in leachate in 1973 and include historical information on location of the tritium source Historical documentation indicates that the tritium source was never removed from the landfill.

Comment: Page vi, bottom. It's great to see that the extent of the Upper Flow System groundwater contamination will be determined along No Name Gulch Please consider the following recommendations:

1) Be sure to utilize the previous evaluation of the contamination in the final Well Evaluation report (available from S Singer at EG&G Geosciences).

2) Coordinate proposed well locations with those of the FY94 Well Abandonment and Replacement Program (WARP), which will be installing at least one new monitoring well in No Name Gulch in May or June. This new well will go in mid-way between existing wells 0686 and 0586.

3) In future investigations, be aware of and utilize the results of the chemical fate and transport modeling of the Walnut Creek drainage being done by B. Roberts (EG&G Geosciences)

Response: Agreed. The following actions will be taken:

1) Previous evaluations presented in the Well Evaluation Report will be used, to the extent possible, to characterize UHSU groundwater contamination in No Name Gulch.

2) Well locations in No Name Gulch will be coordinated with WARP

3) Fate and transport studies being conducted for the Walnut Creek drainage will be considered when evaluating fate and transport of contaminants in No Name Gulch.

Comment: Page 2-21, Section 2 5 2. The drawdown recovery test information is nicely written, but is too detailed for the main body of the workplan. I think most of the details of the Bouwer and Rice method, and the other methods should go into an appendix.

Response: Moving the drawdown recovery test data analysis discussion into an appendix would require revising, renumbering, and recopying of the appendices Recopying appendices would reduce the number of copies of the text (Volume I) that could be produced under DOE DEAR Regulation 970.5204-19 An alternative is to rewrite the drawdown recovery test data analysis to be more concise and use a smaller font size for the equations and symbols.

Comment: Page 2-32, last para. Observation. The authors of this report are to be complimented on using chemistry data like TDS or specific conductance to evaluate the effectiveness of landfill structures, and to identify landfill leachate My experience has been that these water quality parameters work well as indicators of most known RFP groundwater plumes.

Response: No response required.

Comment: Page 2-33, Paragraph starting with "In practice" I don't think that many people will believe that "quarterly and/or monthly sampling rounds ensure that observations are independent" Independence is always an issue in groundwater sampling of the same wells at a regular interval

Response: Quarterly and/or monthly sampling rounds do not ensure independence This statement will be changed to state that quarterly and/or monthly data were assumed independent for this analysis.

Comment: Section 2.5 4 2. The statistical approach is fine, but a simple visual presentation can be equally effective. Why not try to show isoconcentration contours for TDS on Figure 2-38 ? maybe it was tried and it failed ?

Response: Isoconcentration contours for TDS are shown on Figure 4-28

Comment: Page 2-50 Water balance conclusions. These conclusions state that landfill leachate seeps into weathered bedrock, and that the East landfill Pond is recharging weathered bedrock, and that the pond embankment has minimal seepage Yet there is independent evidence of landfill leachate moving with alluvial groundwater down No Name Gulch (see the draft Well Evaluation Report). So, does the weathered bedrock surface (or a lower bedrock unit) transmit contaminants under the pond embankment ? geologic cross-section G-G' suggests that this is possible. What becomes of all this recharge to the weathered bedrock ? I think the text should discuss this.

Response: Determining the extent, if any, of landfill leachate migration down No Name Gulch is a major objective of the Phase II RI/RFI. If contaminants are discovered in No Name Gulch, determination of the source(s) of these contaminants may be extremely difficult This is because multiple potential migration pathways exist for contaminants occurring in No Name Gulch. These contaminants could have originated from seepage to the weathered bedrock, OU 6 IHSSs located outside of the groundwater intercept system, or from discharge of the groundwater intercept system. However, seepage beneath the landfill dam is considered insignificant based on the flux and saturated thickness data presented in the report. Based on a Darcy flux of 2 03 x 10^{-8} cm/s, an average saturated thickness of 2.5 feet, and a width of approximately 550 feet the volume flux below the dam is estimated at 9 23 x 10^{-7} ft^3/s. This corresponds to 0 000414 gallons per minute or 218 gallons per year Only some fraction of the flux below the landfill dam can be attributed to leachate Therefore, the weathered bedrock unit is not believed to represent a significant migration pathway of contamination down No Name

Gulch and contamination in No Name Gulch may be associated with the other sources discussed above. These sources are discussed in Section 4.7 3 of the report.

Comment: Table 2-2. I think the table caption should refer to "cone penetrometer test locations" rather than the cryptic "CPT locations"

Response: The title of the table will be changed to "Depth to Bedrock at Cone Penetration Test Locations "

Comment: Table 2-4, Page 2-62 What is the meaning/value of the field item "RFEDS" under the Ground Surface Elevation column for the last three wells ?

Response: Ground surface elevations for the three OU 6 wells were not available for the draft report Elevations will be retrieved from RFEDS for the draft final report.

Comment: Table 2-5 Four significant digits are not believable for the transmissivity data.

Response: The document has been modified to indicate the correct number of significant digits.

Comment: Figure 2-3 The figure should state the reference for the data and whether the average monthly precipitation is for the last 40 years, or what ?

Response: A note that states the time period for the data will be added to the figure

Comment: Figures 4-34 and 4-36 Observation. These figures indicate very low activities of U-235 and U-238 in filtered groundwater samples. It might prove valuable in the text of the report to compute the average activity ratio U-235/U-238 (or alternately the average mass ratio) and make a statement about the U isotope mix (i e , natural, depleted, or enriched) in the upper flow system.

Response: Activity ratios of $^{238}U/^{235}U$ will be investigated to attempt to determine if the uranium isotopic mix is natural, depleted, or enriched in UHSU groundwater

at OU 7. Interpretation of the results of this analysis are complicated by the relatively low uranium activities measured and the high uncertainty associated with these measurements. If significant uranium had been disposed at OU 7, we would expect to see elevated activities of all isotopes. This is not the case, indicating that the amount of any uranium waste disposed of was small relative to background levels after mixing (dispersion) with UHSU groundwater. However, isotopic ratios may provide additional evidence of the relative impact of waste disposal at OU 7 on uranium activities in UHSU groundwater and will be investigated.

Comment: Observation. I'm pleased to see that this workplan has incorporated the recently defined methodology for PCOC identification (Gehan test, etc)

Response: No response required.

Comment: Page 4-49, Table 4-5 The "Total Gas" column does not include carbon dioxide, and is really "Total Organic Gases" I think it should be renamed

Response: The document will be modified as requested

Comment: Table 4-6. This is a nice summary of the soil gas results, but (1) commas to indicate thousands must have been entered manually in the methane column since some are erroneous (e.g., 7,2199 208 and 2,0201.456); and (2) three significant digits to the right of the decimal point on concentrations measured in the thousands are not credible (see e g , methane 56588 440).

Response: The document will be modified as requested

Comment: Table 5-2 and text on page 5-10. Although I have not examined the basis (presumably the equation on page 5-9) of the calculations used for computing N (the optimal sample size), some of the N values appear to be nonsensical. This infers that the equation, the calculations, or the assumptions may be incorrect. For example, barium has an N of 29002 ! In the next phase of field work how could 29002 samples be collected from the small area surrounding the landfill pond ? I assume that the statistics are based on 133 samples previously collected for barium during the Phase I RFI/RI, and not

the number of samples recommended for collection during the next phase of work ? The text on page 5-10 (or a footnote to table 5-2) should at least explain the rationale to be used for defaulting to the collection of a realistic number of samples when the ideal number (i e , 29002) can not be achieved

Response: (This also applies to the comment referring to Table 5-6) The text on page 5-2 (and in other similar sections) will be expanded to better explain the reasons for the large sample size required for some of the analytes. These large sample sizes resulted from large values of the ratio of σ^2/Δ (the sample variance to 25 percent of the ARAR) Large values of σ^2/Δ occur when the sample variance is an order of magnitude or greater than the ARAR value In these cases, the sample mean is also orders of magnitude greater than ARAR values. Therefore, common sense indicates that these analytes actually exceed ARARs No further sampling is justified for these analytes because it is conceded that they exceed ARARs. Therefore, the statistics were used to determine realistic sample sizes for those analytes that are not obviously at levels much greater than ARARs

Comment: Table 5-6 This table simply reinforces the above comment, i e , the N values are crazy. N=82015870 samples for Al ! Even if the equation and calculated N values are correct, they are ridiculous. So the workplan clearly needs to present a more realistic strategy for defining a practical N value for sampling

Response: See response to previous comment.

K. Bennett, EG&G

Comment: Executive Summary, Page vii. Add unrestrained swelling tests and swelling pressure tests to the soils testing

Response: Unrestrained swelling tests and swelling pressure tests will be added to the list of geotechnical tests on the interim soil cover material.

Comment: Figure 1-3. The OU7 IHSS boundary is shown in red but doesn't include the landfill pond, although it does include IHSS 167 2 and 167 3. If these IHSSs are for spray operations, they don't appear to include all the area that was used for spray operations

Response: IHSSs boundaries were drawn to delineate areas where the occurrence of spray evaporation activities have been documented on the basis of photographs However, because it was recognized that spray evaporation may have occurred outside of the IHSS boundaries, as drawn in the Historical Release Report, surface soil sampling was performed over a significantly larger area. Chemical data for the surface soil samples do not allow the IHSS boundaries to be redrawn with any level of confidence

Comment: Figure 1-5 Slopes of 2·1 are typically not stable, particularly with clay that is wet from groundwater Slopes of 3 1 are preferred

Response: The information presented in Figure 1-5 is taken directly from the Present Landfill Closure Plan (Rockwell International, 1988).

Comment: Figure 2-1 Were abandoned wells closed and abandoned per State Engineer's requirements ?
The note "Abandoned Asbestos Area" should be plural

Response: Since the late 1980's, groundwater monitoring wells at OU 7 were abandoned in accordance with procedures outlined in operating procedures GT 05 No documentation exists regarding the procedures for abandonment of wells installed during the 1970s to characterize the tritium source

The figure will be modified to indicate "Asbestos Disposal Areas."

Comment: Figure 2-7. The location of obvious (field observed) slope instability in the artificial fill should be noted.

Response: The figure will be modified as requested

Comment: Figure 4-29 One would infer that wells which do not have nitrate/nitrite shown, have less than the lowest value plotted The same comment is true of most of these figures shown in this section of the report.

Response: Text will be added to the report to discuses the lack of data for nitrate/nitrite within the landfill. Symbols will be added to maps to indicate that data were not available for plotting at some wells

D.F. George, ER (BOR)

Major Comments

Comment: In the executive summary, and introduction, include the changes in the IHSS to include 167.1, 167 2, 167.3, 166 1, 166.2, and 166.3 which have been transferred from OU6. Mention that these IHSSs will continue to be studied under OU6 until the OU7 IM/IRA is prepared at which time the data will be incorporated Also include a blurb about the Leachate Collection IM/IRA.

Response: As of the submittal date for this document, no formal notification has been received transferring IHSSs 166 1, 166 2, 166 3, and 167 1 from OU 6 to OU 7 These IHSSs will continue to be studied as part of the RFI/RI for OU 6 and the need to remediate will be evaluated on the basis of the Baseline Risk Assessment If remediation is warranted and if the CAMU concept for OU7 is approved by the agencies, then contaminated environmental media from the OU6 IHSSs will be disposed in the Present landfill. At that time, OU6 IHSSs will be incorporated in the IM/IRA Decision Document for Closure of the landfill

As requested, the document will be modified to address the leachate collection IM/IRA for OU 7

Minor Comments (sticky tabs)

Response: The document was modified in response to the comments on the sticky tabs

Additional Comments

Response: The Records Management SOP will be reviewed to ensure that the final version of this document meets QA requirements for formatting.

Unidentified Reviewers

Comments provided by an unidentified reviewer as red-lined edits to the Executive Summary were incorporated into the revised revision of the document, except for the issue discussed below

Calcium is identified as a PCOC in accordance with the protocol for statistically comparing site to background data. During the risk assessment, all PCOCs, including calcium, will undergo a concentration-toxicity evaluation. At that time, calcium will probably be eliminated from further consideration at OU 7.

F. Munter, Dames & Moore

General Comments

Comment: Although the history of this unit and the purpose and implementation of the Data Quality Objectives Process are thoroughly presented in this document, the regulatory framework is not as thoroughly presented. There are some major regulatory assumptions stated in the text which are not supported by documentation in the text. I am hampered a bit by not having a copy of the Draft ARARs for OU 7 briefly mentioned in the text of the document (these may be in an appendix?). However, if I am at a loss as to what the potential ARARs are, I believe another reader would be also---requiring that the draft list of ARARs be placed in the document. The discussion of ARARs in the document is limited and I believe should be expanded to give the reader a full perspective of the regulatory context under which cleanup may occur. The longest discussion of the regulatory framework is devoted to EPA's latest guidance on the presumptive remedy for landfills and although this is important to the subject OU, it is not the only controlling guidance or regulation in the RI/FS process There needs to be a short discussion of the types of ARARs (chemical, action and location-specific) and the importance of these ARARs to the PRGs and selected remedy I believe this is true even though the presumptive remedy limits the type of remedial action alternatives. Such a discussion is missing from the document along with recognition of the NCP regulatory framework.

Response: The regulatory framework for OU 7 will be thoroughly investigated as part of the regulatory support tasks for the IM/IRA. Potential ARARs are presented in a separate document that was developed to support the IM/IRAs.

Comment: There is a decided assumption that the CAMU rule will automatically apply at this OU and that because the CAMU rule applies at the currently operating landfill, RCRA Subtitle D requirements will apply for closure, ground water monitoring, and postclosure. I'm not so sure that is the case My reasons for this are that the State Hazardous Waste Commission has not adopted the CAMU rule yet and the Commission is considering language changes to the federal rule on CAMUs The Commission is expected to

adopt the rule May 17th with changes. Some of the changes being considered involve the ground water monitoring requirements, closure, and post-closure these parts of the CAMU rule, under the Commission consideration, are proposed to be handled on a case-by-case basis. In addition, I do not believe it can be stated with such absolute assurance that Subtitle D requirements will be used at the landfill, when evidence exists of hazardous waste has been disposed of at the solid waste landfill. The hazardous waste storage area is part of this OU and "potential" CAMU as well.

Response: Because of the evolving nature of the regulatory framework for OU 7 and the uncertainty of the applicability of the CAMU rule, all discussions of the CAMU will be deleted. A decision regarding the applicability of the CAMU rule at OU 7 will be determined during future negotiations with the agencies

Specific Comments

Exec Sum: A clear purpose and objective should be stated in the first paragraph, currently it takes six lines

Response: The purpose and objectives will be clarified.

p. v: It is stated in the third paragraph that surface waters in the pond will have to meet requirements for delisting What is the reasoning for this statement?

Response: The paragraph about remediation of the pond, including requirements for delisting, will be deleted

p. v: It is stated that some PCOCs exceed ARARs in ground water in the fourth paragraph. The reader is not given any idea of what specific ARARs are being discussed

Response: The text will be revised to state that PCOCs exceed draft OU 7 chemical-specific ARARs.

p. vi: second bullet. Reference is made to draft PRGs in the discussion on analyte concentrations in soils at the East Landfill Pond. It needs to be clarified what PRGs are being referred to in the discussion.

Response: The text will be clarified as requested.

p. 1-9: The statements presented on this page in the first two paragraphs indicate the landfill unit will be required to comply with parts of 264 and 265 with respect to monitoring and closure This is inconsistent with statements made later in the text on p 5-4 (statements on application of CAMU).

Response: The statements on application of CAMU will be deleted

p. 1-15: Concentrations of Tritium are discussed in comparison to the State's water quality standards during the years 1973 and 1980 Can this information be updated with current standards?

Response: The regulatory framework for OU 7 will be thoroughly investigated as part of the regulatory support tasks for the IM/IRA. Potential ARARs are presented in a separate document that was developed to support the IM/IRAs

p. 4-10: It is noted that PCB contaminated waste was placed in the landfill (below 50ppm). This may mean that the landfill closure must be in compliance with the standard RCRA 264 requirements because of compliance with TSCA requirements.

Response: The regulatory framework for OU 7 will be thoroughly investigated as part of the regulatory support tasks for the IM/IRA. Potential ARARs are presented in a separate document that was developed to support the IM/IRAs.

p. 5-4: The discussion of the CAMU rule should be updated to reflect the State of Colorado's proposed rule; however, the discussion needs to reflect this as a possibility and not an accomplished fact unless there is other documentation to support such a statement. Because the State's rule is more stringent, it would probably be the ARAR and not the Federal rule, assuming this approach is acceptable. As stated above, we question whether this regulatory

framework is correct given all the facts the inconsistency between this discussion and the discussion on page 1-9 needs to be resolved.

Response: The paragraph that discusses that CAMU rule will be deleted.

p. 5-9: The third paragraph discusses ARARs without identifying what ARARs are being referenced.

Response: The document presenting draft or potential ARARs for OU 7 will be referenced in this paragraph.

p. 5-10: The third paragraph mentions the PRGs but does not explain the specifics of the PRGs being mentioned, i e. Is the PRG for soil a specific risk value?

Response: The document will be modified to explain that soil PRGs are risk-based values.

p. 5-11: The discussion on pond sediments in the second paragraph assumes that the risk assessment determines the need to remediate This statement should be modified to include the standards for cleanup, the ARARs. In addition the discussion in the next paragraph refers to the ARAR table which has soil values not sediment values. these two media cannot necessarily be treated the same EPA has proposed an approach to establishing national sediment quality criteria but formal proposed rules have not been published yet. We recommend revising the discussion presented and perhaps using EPA's methodology of at all possible

Response: There are no ARARs for soil There is only guidance to be considered (TBCs). There are no ARARs or TBCs for sediments. Because sediments are more similar to soils than to other media, TBCs for soils are referenced as action levels and were used for sample size calculations The text will be revised to clarify this issue.

p. 5-12: In the fourth paragraph it is stated that surface water maybe considered a listed wasted We suggest revising this statement, as surface water may

contain listed hazardous waste constituents but surface water itself is not a listed waste.

Response: The statement will be deleted

p. 5-13: The third paragraph refers to delisting of surface water which is not quite correct; only hazardous waste can be delisted.

Response: The statement about delisting will be deleted

p. 5-14: We suggest revising the discussion in Section 5 5 3 to explain why hazardous waste number FO39 is applicable for the reader In addition, if a delisting approach to the FO39 waste present in the ground water or surface water is the intended course of action, it should be fully explained to the reader The reference in the first paragraph is not correct as it appears and should be fixed

Response: The text discussing FO39 waste will be deleted

p. 5-15: In Section 5 5 5 reference is made to ground water and surface water ARARs without mentioning what the specific ARARs are

Response: The document presenting draft or potential ARARs for OU 7 will be referenced in this section.

p. 5-19: The same comment stated above applies to Subsection 5 5.7 2; the ARARs need to be identified.

Response: The document presenting draft or potential ARARs for OU 7 will be referenced in this section.

p. 5-22: Item number 3 in Section 5 6 2 states that if chemical-specific ARARs are not exceeded, than leachate collection and treatment is not required. This may or may not be a true statement depending on what the specific ARAR is that is being discussed In addition it is possible that such controls and treatment would be required via action-specific ARARs

Response: A statement about possible action-specific ARARs will be added

p. 5-25: The discussion at the bottom half of the page needs to be revised to reflect action-specific ARARs as these will dictate the "action level".

Response: The text will be revised to state that action-specific ARARs may dictate the action level.

p. 5-26: We note that proposed standards are not ARARs. In addition, the discussion at the bottom of the page under Section 5.6 6 should reflect the decision to be made under the NCP rule and the RI/FS process

Response: The text will be modified as requested