ECY received 3/21/02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

MAR 20 2002

Reply To
Attn Of: WCM-126

FACSIMILE AND CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. RueAnn Thomas,
Environmental Programs Director
J.H. Baxter & Co.
85 North Baxter Road
Eugene, OR 97402

Re: December 2001 Site Investigation Work Plan
J.H. Baxter & Co. Arlington Facility
§ 7003 Administrative Order on Consent (AOC)
Docket No.: RCRA-10-2001-0086
EPA ID No.: WAD 05382 3019

Dear Ms. Thomas:

This letter serves to inform you that the United States Environmental Protection Agency (EPA) has completed its review of the above-referenced work plan. This plan was submitted to EPA on December 19, 2001. EPA's general and specific comments are provided in Enclosure 1.

Pursuant to Section XII of the AOC, EPA is hereby disapproving the work plan and is requiring a revised work plan be submitted within 30 days of receipt of this letter. The revised work plan must incorporate the enclosed modifications.

If you have any questions regarding this matter, please call me at (206) 553-0955.

Sincerely,

Kimberly A. Ogle

Kimberly Ogle
Project Manager

Enclosures

cc: Dean Yasuda, NWRO
Byung Maeng, NWRO
Jeanne Tran, NWRO
Will Abercrombie, Hart Crowser, Inc.
Sara Beth Watson, Steptoe & Johnson
Shawn Severn, Premier Environmental Services, L.L.C.

ENCLOSURE 1

GENERAL COMMENTS

1. In general, the December 19, 2001 Site Investigation (SI) Work Plan is much improved in organization and readability.

2. When specific comments for a given Section of the work plan or the appendices are provided, please ensure that the modifications are consistently made throughout the entire document where appropriate. This is most notable between Section 8 and Appendix B, but may be the case elsewhere in the document.

3. It is anticipated that using the Model Toxics Control Act (MTCA)Cleanup Regulation, coupled with a comparison of site data to Region 9's Preliminary Remediation Goals (PRGs) will be an acceptable approach in meeting the requirements of the AOC. In addition, appropriately using MTCA rules for this cleanup will satisfy any outstanding requirements of Baxter's MTCA Order with the Washington Department of Ecology (Ecology). Where Baxter's proposed work deviates from the MTCA approach, (for example, the work plan's proposal for determining background concentrations in soil), a detailed explanation must be provided.

4. Please note that the AOC does not require the submittal of a Corrective Measures Study *Work Plan*. The AOC was written in this manner to expedite the cleanup process at the Baxter facility.

5. Be reminded that pursuant to Attachment B of the AOC, the comprehensive stand alone data document must be updated annually.

6. Please note that Paragraph 65 of the AOC requires *compliance* with Quality Assurance *guidance*.

7. All visual observations and qualitative data gathered during the site investigation must be provided in the SI Report. A copy of all field notes, logs, chain of custody forms, documenting this type of data must be included as an appendix to the SI Report.

8. In general, the inconsistent use of the terms, "Area", "Parcel", "Area of Investigation", "Operational Boundaries" and "property parcel boundary" is confusing. It is also unclear how these terms relate to "stormwater drainage basin boundaries". Adding to the confusion is the change in the delineation of the Main Treatment Area has changed from previously submitted work plans. Please clarify and revise appropriate portions of the text and figures.

9. Lastly, the term "consultation" is used throughout the work plan and the appendices.

Please note that EPA is willing to consult on the *criteria* set forth in the work plan *once the work plan is approved* by EPA. EPA will not direct Baxter or its consultants in matters such as well placement, number of samples necessary, etc. Once the approved work plan is implemented, Baxter will certify in the SI Report that the work plan has been implemented and will document any field deviations which may have occurred.

SPECIFIC COMMENTS

1. Table of Contents, Page i,: The Table of Contents must be revised to include Appendix A and B.

   The Table of Contents is inaccurate, especially in Section 8.

2. Section 1, Page 1-1: The work plan does not define the roles of the two consulting companies or identify individuals in each who will work on the project. Revise the work plan by inserting a "Project Management Organizational Chart" which lists key project managers and their duties. This Chart must include key Baxter, Hart Crowser, Premier and EPA officials.

3. Section 1.1, Page 1-1, Second Sentence: The second sentence currently reads, ". . .several guidance documents, including:". Modify the sentence to read, ". . .several guidance documents, including but not limited to:".

4. Section 1.2, Page 1-4, second bullet, "***Sampling and Analysis and Data Management Plan*** (Appendix B)": The last sentence fragment reads, "Quality assurance (QA) policies, quality control (QC) procedures, data uses, documentation, a description of the analytical methods to be used, and a description of all field procedures." Revise the fragment into a sentence and ensure that this description of Appendix B and the contents of Appendix B itself, meet the requirements of Section X of the AOC. Please be reminded that Paragraph 65 of the AOC *requires* compliance with EPA *guidance*.

5. Section 2.2.2, Parcel B, Page 2-3: This Section must be revised to discuss the residential property that is located to the west of the railroad tracks bordering the eastern edge of the Baxter property. In addition, the description of Parcel B in this Section is inconsistent with the referenced figure, and other figures, because the text does not discuss the 100 foot strip of treated pole storage area along the northern edge of Parcel B. Also see the comment on Section 4.7, Page 4-5.

6. Section 2.4.1, Page 2-5: The first paragraph in this Section states that "Catch basin CB 13 and CB 14 were connected by pipe to CB 23. Figure 2-1 does not reflect this. The figure must be corrected.

   The second paragraph in this Section discusses the closure of catch basins. This Section

must be revised to state whether or not any soil data was collected during these closure activities.

7. Section 2.4.3, Page 2-6: This Section states that there is a low potential for offsite migration of surface water. The Section must be modified to discuss the potential that offsite migration of contaminated surface water occurred in the past.

8. Section 2.5.1, Page 2-7: This Section discusses the "Butcher Pit" and states that its location is unknown. What is known is what portions of the facility Butcher operated. Therefore, the map must be revised to document the possible location of the Pit based on when and where Butcher operated. Further, whether the excavated tar pit could be the old Butcher Pit must be discussed.

   This Section must be revised to include documentation and/or explanation of the statement, "workers reportedly recovered most of the spillage in each case". There must also be some discussion about how the other source areas became contaminated. It seems clear that not all contaminated source areas are the result of documented spills; however, the report does not indicate possible causes of other contamination source areas.

9. Section 4.7, Surrounding Land Use, Page 4-5: Revise portions of the text which describe surrounding land use to include the presence of residences. A copy of a county zoning map must be included in the revised work plan.

10. Section 5, Page 5-1, first paragraph: This paragraph indicates that "only data compiled through April 2001 are discussed", implying that some data have been omitted. This Section must be revised to explain what other data are available and to include that data in the revised work plan..

11. Page 5-1, third paragraph, second to the last sentence: Correct the typographical error in the measurement units for Soil TEQs.

12. Section 5.1.1, Chlorinated Phenols in Surface Soil, Page 5-2: The new delineation within Parcel A of the Main Treatment Area, here and throughout the work plan is confusing. The previous draft SI Work Plan portrayed the Main Treatment Area extending all the way (west) to the Closed Wood Waste Landfill. Explain this inconsistency.

13. Section 5.2.3, PAHs in Subsurface Soil, Page 5-3: This Section is misleading in that some of the soil samples are from relatively clean borings (e.g. MW-1). This Section must be revised to include discussion on locations where Nonaqueous Phase Liquid (NAPL) has been observed (e.g. borings BT-S and BT-W) but no samples were taken. The failure to mention the NAPL in the discussion makes the concentrations mentioned in this Section underestimations of the actual concentrations at the site. Revise this section to include the NAPL in the discussion.

14. Section 5.3.1, Chorophenols in Stormwater, Page 5-6, and Figure 5-7: The text states that pentachlorophenol (PCP) concentrations in the Untreated Pole Storage Area at concentrations of up to 290 micrograms per liter have been detected. This statement conflicts with Figure 5-7 which depicts the maximum concentration of PCP on the Untreated Pole Storage Area as 73 micrograms per liter. This issue must be addressed by either inserting another figure which depicts newer, discrete sampling which has occurred in the Untreated Pole Storage Area, or by revising Figure 5-7 to include the values for the discrete sampling conducted in the Untreated Pole Storage Area.

Chorophenols in Stormwater, Page 5-7: If Table 5-4 is included, then this Section must be revised to discuss whether the PCP concentration in stormwater is decreased by filtering. To resolve this issue, it would be necessary to do analyses on all the fractions of the samples, both the filtered solids and the water samples. Since it is not known what sediment size fraction PCP would absorb to, it may be inaccurate to continue to ignore the fraction which is absorbed to any sediment in the sample. This same issue needs to be discussed in all the Sections which use lysimeter data, since by its construction the lysimeter is a filtering device. EPA considers all lysimeter samples to be biased low in concentration, this must be documented (i.e. data qualified) in all the Sections and Tables where these data are referenced. Additionally EPA will not accept interpretation or analysis of data trends using lysimeter data.

15. Section 5.4, Pore Water, Page 5-7: (Same comment as above) Lysimeter data are by definition filtered since the lysimeter is a filtering device which pulls pore water from the unsaturated zone using a vacuum. The filtering is caused by both the porous cup and the fine material on which the lysimeter is set in the ground. EPA considers all lysimeter samples to be biased low in concentration and must be documented as such in all the Sections and Tables where these data are referenced. Additionally EPA will not accept interpretation or analysis of data trends using lysimeter data.

16. Section 5.5.4, PCDD/PCDFs in Groundwater, last phrase in the second paragraph in this Section, Page 5-10: It is not clear to which wells the phrase, "which are still sampled with bailers" refers. Revise the text accordingly.

17. Section 5.6 Air: EPA offers the following general comments with respect to the Air Investigation: This section and all other relevant sections regarding the air investigtion must be revised to provide additional detail in how the work plan will be implemented. Although the text states that data collected for workers will be used to assess residential exposures, it does not describe how this data will be extrapolated from a worker scenario on site to a residential scenario off site. Based on the concentrations provided, there is an indication that nearby residents could be at risk, but sufficient data have not been presented to prove or disprove this.

If the worker's air concentration was assumed to be the same concentration that a nearby resident would be exposed to for 30 years, 24-hours/day, then the risks would be about 4 x 10-3. This is an unacceptable level of risk. Additional clarification on how worker air data will be used to assess residential air risks must be provided in the revised work plan.

Page 5-11: It is not clear if the OSHA level and the method of sampling that was used in the exposure study are appropriate for use in the risk assessment for this project. This Section must be revised to provide more justification and detail. The actual OSHA study must be included as an appendix if it is to be included in determining risk. The revised work plan must include a discussion if existing data is sufficient and must identify what steps will be taken to gather supplemental data.

18. Section 6.2.1, Page 6-2: See comment #7 above. Revise the bulleted list to include the Butcher Pit as a known, unlocated source of creosote.

19. Section 6.2 PCP/Creosote Use and Source Areas, Page 6-2: One potential source of contamination which has been omitted from this Section and minimized in the Conceptual Site Model depicted in Figure 6-1 is infiltration of potentially contaminated precipitation across the entire facility and in particular, the surface water which infiltrates through the catch basins, french drains, the ponded area in the south side of the site and the ditches which are found throughout and around the site. This Section and applicable portions of the Conceptual Site Model must be modified to depict the concept of PCP and other site contaminants being carried and/or distributed by overland flows, by site wide infiltration into the soil and by infiltration at concentrated areas near the catch basins/french drain.

20. Section 6.2.1 Main Treatment Area, The Old Thermal Retort Bullet, Page 6-3: This bullet states, "The use of the retort prior to Butcher's presence at the facility is unknown." This statement implies that the retort was at the facility prior to Butcher's ownership. Indicate if this is what was meant and what is known about its prior use. If this is a typographical error, correct the text accordingly.

Section 6.2.1, Main Treatment Area, Page 6.2 through 6.3: The ditches and the french drains are sources in the Main Treatment Area. This Section must be revised accordingly and the corresponding scope of work activities in Section 8 must address these sources.

21. Section 6.2.2, Treated Pole Storage Area, Page 6-4, The ditches and the french drains are potential sources in the Treated Pole Storage Area. This Section must be revised accordingly and the corresponding scope of work activities in Section 8 must address these sources.

22. Section 6.2.3, Untreated Pole Storage Area, Page 6-4: The ditches and the french drains are potential sources in the Untreated Pole Storage Area. This Section must be revised

accordingly and the corresponding scope of work activities in Section 8 must also be revised to address these sources.

23. Section 6.3.2.2, Stormwater, last sentence of this Section, Page 6-6: Correct the typographical error in the misuse of parentheses.

24. Section 6.3.2.3, Groundwater, Page 6-7: Correct the two typographical errors in the first sentence of this Section. Insert the word "to" in front of "the ditch". Figure 5-8 represents the sample containing 21 micrograms per liter of PCP as being to the west, rather than the north of the Main Treatment Area as described in the text.

25. Section 7, Investigation Approach, Page 7-1: The following items are not listed in the work plan and must be. (See General Comments above.)

All the sampling locations (especially soil samples, borings and sediment samples) must be located with a survey or a Global Positioning System (with corrections for accuracy, as needed)

The criteria to be used to determine appropriate depth of borings and wells must be stated in the work plan. There must be an explanation as to why the borings are completed to a given depth (SB-41 to 40-50 ft below ground surface vs SB-43 to 5 feet below water table). The rationale must include the reason for the chosen depth and any assumptions used in that decision. For example, it appears that one of the reasons for the placement of SB-43's depth at 5 feet below the water table is to determine the presence of NAPL. This approach has limitations because it only provides data about the assumed LNAPL. No data regarding the dissolved plume or DNAPL which may be present below that depth, would be provided from this approach. Therefore, no assumptions about the groundwater characterization beyond the LNAPL if present, may be made.

A better approach for determining appropriate depth would be to begin at a depth where NAPL has been found at in other nearby locations, without assuming that only LNAPL is the issue at that boring.

Similarly, the work plan must provide the rationale that will be employed in the field, for making decisions on screening intervals and length of screen to be used.

Graphs, borings, wells, etc. must have elevations adjusted to surveyed elevations rather than the 100 ft. assumed elevation used for the site bench mark (Figure 4-5). This comment has been made previously.

Details of the site topographic survey that was done must be described and the survey's results must be incorporated into the work plan.

There must be a table with well numbers, boring location numbers, survey bench marks used, and other key landmarks related to this study which includes the elevations, State Coordinate System locations, and the Vertical and Horizontal Datum used for the site. This comment has been made previously.

Copies of aerial photos which depict site use changes over the year are available for the site. These photos, with their corresponding dates, must be included in the Figures Section of the work plan.

26. Section 7.1, General Approach, last sentence of the first paragraph in this Section, Page 7-1: The last sentence currently reads, "Work scopes for all additional phases of this SI will be prepared and performed with consultation of EPA in accordance with paragraph 63 of the AOC."

These sentence must be deleted and replaced with the following: "Work scopes for all additional phases of this SI will be prepared as addenda to this work plan and submitted to EPA for approval pursuant to Section XII of AOC."

In addition, for instances where additional phases of the SI can be anticipated, the revised work plan must include details of where and when this may occur.

27. Section 7.2, Consolidation of Areas of Investigation, Page 7-2: This Section must be revised to clarify why there is a new delineation of the boundaries of areas within Parcel A of the Main Treatment Area, here and throughout the work plan. The previous draft SI Work Plan had the Main Treatment Area extending all the way (west) to the Closed Wood Waste Landfill. Explain this inconsistency.

Additionally, with respect to waste designation of contaminated soils, the delineation of the facility may be inappropriate since the former drip pad area is now located in the treated pole storage area. In general, the varied use of the terms: "...Area", "Parcel...", and "property parcel boundary", and how these terms correspond or not with "stormwater drainage basin boundaries", is confusing. Also adding to the confusion is the fact that the delineation of the Main Treatment Area has changed from previously submitted work plans. Please clarify and revise appropriate portions of the text and figures.

28. Section 7.5, Page 7-3: This Section discusses the location of proposed sediment samples. It is not clear why ditches located on the eastern edge of the property are not proposed to be sampled. While it is true that access may be difficult to obtain, the AOC addresses access; proposed sampling of the eastern ditches must be presented in the work plan.

29. Section 7.6, NAPL Investigation, last paragraph of this Section, Page 7-4: This paragraph proposes the potential for additional NAPL investigations after the evaluation of the SI data. EPA would consider NAPL investigations to be a part or the next phase of

the SI work. As such, a contingency for this work must be built into the work plan. Delete the last sentence which states, "Any proposed activities will be performed after initial SI data have been evaluated and approved by EPA." While EPA is willing to consult with Baxter regarding the data collected during the SI, evaluation of the data to determine the next steps and the proposal to conduct that work are the obligations of J.H. Baxter.

Once proposals are made in work plans, EPA will review and approve them in accordance with the approval provisions of the AOC.

30. Section 7.8, Air Investigation, Page 7-5: It is not clear if the OSHA level or the method of sampling that was used in the exposure study is appropriate for use in the risk assessment for this project. This Section must be revised to provide more justification and detail. The actual OSHA study must be included as an appendix if it is to be included in determining risk.

Also see comments provided in comment # 17 above.

31. Section 7.9, Application of the Area of Contamination Policy (AOC), Page 7-6: This Section must be revised to discuss more site specific applications of the AOC Policy. Use of the AOC Policy may be appropriate here, however, the discussion at this point seems premature. It would be more appropriate to discuss in the Corrective Measures Study. More specific details must be provided regarding the wastes and media Baxter plans on moving and treating within the AOC. If Baxter is planning to utilizing this policy to manage investigation derived wastes (IDW), be advised that the AOC concept "does not affect the approach for managing IDW waste that did not come from the AOC, such as Personal Protective Equipment (PPE), Decontamination Equipment (DE), decontamination fluids, and groundwater. The latter materials, if RCRA hazardous, must be containerized and disposed off-site." (See Page 7 of May 1991, "Management of Investigation-Derived Wastes During Site Inspections"). If this discussion is presented to cover instances such as hot spot removal (see Comment 26 above), then the text needs to discuss the use of the AOC Policy for these instances, or defer the discussion until the work plan to address such instances is submitted.

The last sentence of the second paragraph in this Section references a 1998 EPA document. The reference list must be revised to include this document.

32. Section 7.10, Interim Measures, Page 7-7, last sentence: The last sentence currently reads, "...early removal actions may be performed with EPA approval." This sentence must be modified to read, "early removal actions may be performed with EPA approval and will be requested in accordance with Paragraph 63 of the AOC.

33. Section 7.11, Contingency Investigations, Page 7-8, Insert the phrase, "to EPA's

satisfaction" after "CoPCs" in the first sentence under this Section.

34. Last sentence, Page 7-8: The last sentence currently reads, "Additional proposed investigation activities will be developed in consultation with EPA." This sentence must be modified to read, "Additional proposed investigation activities will be developed in consultation with EPA and in accordance with Paragraph 142 of the AOC."

35. Section 8.1.1, Task 1.1 - Soil Investigation, Page 8-2: This Section must be revised to provide the criteria to be used to decide which borings will be converted to wells.

36. Section 8.1.1.1, Task 1.1.1 - Soil Borings, Pages 8-2 through 8-3: First paragraph in this Section, second from the last sentence, Page 8-2: Correct the typographical error, ". . . will be collected samples continuously."

Second paragraph in this Section, Page 8-2: This Section must be revised to indicate what exactly are the criteria which will be utilized in selecting soil samples for laboratory analysis. In addition, this Section must be revised to define the term "unbounded direction".

First sentence on the page, Page 8-3: This Section must be revised to identify the criteria which will be used in determining appropriate boring depth in addition to providing an approximate depth. See comment above on Section 8.1.1, Task 1.1, Soil Investigation.

First paragraph, Page 8-3: This paragraph states that four soil samples will be collected from each boring for analysis. The Section must be revised to indicate what criteria will be used in selecting the samples for analysis. This Section must also be revised to provide the meaning of the term "opportunistically". As written it is not clear whether this term is being used to describe the worst case field screening results or results which show no visible contamination.

First and second paragraphs, Page 8-3: This Section must be revised to correct the inconsistency in sampling interval criteria. For example, the first paragraph calls for "continuous" soil samples and the second paragraph calls for samples to be taken at "2.5-foot-depth intervals". In the last sentence of the second paragraph no rationale is provided for MW-10 and MW-11 being drilled to a depth of 30-50 feet bgs. EPA's preference is for the work plan to present the criteria which will be used in the field to make such decisions and rationale for any anticipated deviations in addition to providing approximate depths. The SI Report will document exact depths of borings and wells.

36. Section 8.1.1.2 Task 1.1.2 - Surface Soil Investigation, Page 8-4, last sentence of first paragraph, Page 8-4: Revise this paragraph to indicate the criteria which will be used in selecting the one soil sample from each boring which will be analyzed for chlorinated phenols and TPH-D.

37. Section 8.1.2 Task 1.2 - Sediment Investigation, Page 8-5: A sampling plan for the sediments along the east side ditch has not been included in the work plan. Proposed sampling locations and rationale must be included for the east ditch even though access to the property may be difficult to obtain. Revise this Section to include a proposal for the eastern ditch.

38. Section 8.1.3 Task 1.3 - Groundwater Investigation, Page 8-5: It appears that MW-12 and MW-13 will be installed to detect NAPL. EPA, in similar circumstances, has observed that there is a lag time for NAPL to enter the sand pack of the wells, until the oil coats the new sand pack material and allows oil to flow into the well. Because this is a possibility during the installation of MW-12 and MW-13, the work plan must be revised to use a relatively low rate of pumping during well development. Assuming that NAPL is encountered in the aquifer material, the slow pumping will induce the NAPL to enter the well screen before water levels are obtained and sampling of the wells occur. The objective of a decreased pumping rate is to induce the NAPL to flow into the well during the well development but without causing excessive draw down which would lead to smearing of the NAPL.

Last sentence of first paragraph, Page 8-6: Delete the sentence which currently reads, "EPA approval will be documented in writing and referenced in the final SI Report." Even though EPA is willing to consult with Baxter regarding the final well design, Paragraph 59 of the AOC states that, "Oral advice, suggestions, or comments [i.e. "consultation"] given by EPA representatives will not constitute an official approval, nor shall any oral approval or oral assurances of approval be considered binding."

Third paragraph, Page 8-6: The proposed interval of 100-foot is too large to meet the requirements of Section B of Attachment B of the AOC. This was discussed at previous meetings with EPA. EPA's suggestion for delineation of the lateral extent of the plume would be to start at the center of the plume and extend out from that point in all directions. Since the site is relatively small, EPA would recommend an interval length of 50-feet. This too was discussed at the previous meetings. By using such a large interval, Baxter may not be able to fully characterized the plume as required. If Baxter chooses to use the 100-foot interval, the work plan must be revised to include a discussion or contingency on what alternate, smaller, interval will be used at or near the edges of the plume(s). In the effort of minimizing work effort and cost, it may be more prudent to revise the plan to use 50 foot interval. Revise the text accordingly.

Page 8-6: The term "screening-level grab" must be defined. The groundwater samples from the Direct Push Technology (DPT) are expected to be turbid. Analyses of turbid samples are qualitative only and results will be questionable. Decisions regarding characterization may not be made using analysis from turbid samples.

EPA has observed that the concentrations of unfiltered analysis and filtered analysis can change dramatically, when water/filtrate concentrations are compared to analysis from turbid samples. The change in concentrations between filtered and unfiltered samples is further demonstrated in Table 5-4 which discusses concentrations in stormwater.

Therefore, the work plan must be modified to include a contingency for filtering the samples and analyzing *both* the water and the filtrate, especially in areas expected to have low or non-detectable PCP.

Page 8-6: This Section must be revised to indicate what will be the criteria used in obtaining the grab sample in the boring.

Page 8-6: The second from the last sentence in this paragraph states that, "All additional borings will be located in consultation with EPA during the course of this investigation." This sentence must be deleted and replace with the following: "Additional borings will be located utilizing the criteria described above." Please note that EPA will consult with Baxter on Baxter's field criteria for locating additional borings, once the criteria are approved, but is unwilling to direct Baxter in locating additional borings.

39. Section 8.1.4 Task 1.4 - NAPL Investigation, Page 8-7 and 8-8: This Section must be revised to include details and criteria for determining depths of SB-2D and SB-3D. The criteria for defining the aquitard seem reasonable, assuming that the aquitard is relatively continuous. However, the statement that depth is "until refusal" is not acceptable. Direct Push Technology has limitations on the depth to which it can be used. If refusal occurs with the Direct Push Technology, the work plan must provide for a contingency, like using drilling equipment to continue on from the location of the refusal until the aquitard is encountered. Equipment limitations are not an acceptable criteria for determining depth of borings.

Near the end of this Section two samples are proposed for analysis. This Section must be revised to define criteria to be used in determining which grab samples will be analyzed.

Third paragraph, Page 8-7: The last sentence of the third paragraph reads, "EPA approval will be documented in writing and referenced in the final SI Report." This sentence must be deleted. Even though EPA is willing to consult with Baxter regarding the final well design, Paragraph 59 of the AOC states that, "Oral advice, suggestions, or comments [i.e. "consultation"] given by EPA representatives will not constitute an official approval, nor shall any oral approval or oral assurances of approval be considered binding."

Second paragraph of this Section, Page 8-8: This Section must be revised to discuss the criteria which will be used to determine which two (or more) screening-level grab groundwater samples will be analyzed.

40. Section 8.2, Task 2 - Treated Pole Storage Area, Page 8-9: This Section must be revised to detail the possible facility conditions which may change the locations of the sample stations.

41. Section 8.2.2 Task 2.2 - Sediment Investigation, Page 8-10 and 8-11: A sampling plan for the sediments along the east side ditch have not been included in the work plan. Proposed sampling and the rationale must be included for the east ditch even though access to the property may be difficult to obtain. Revise this Section to include a proposal for sampling of the eastern ditch.

42. Section 8.3.1 Task 3.1 - Soil Investigation, Page 8-12: The sampling description seems to confuse polygons with sectors. In addition, while the Section states that one sample station will be selected from each polygon, the same paragraph also seems to indicate that the polygon to be sampled will be determined using a random number generator. Correct the procedure to make it unambiguous.

The last sentence of this paragraph must be revised to indicate what field screening result (criterion) may warrant a deviation from the proposed depth interval.

43. Section 8.4 Task 4 Air Investigation, Page 8-13: It is not clear if the OSHA level or the method of sampling that was used in the exposure study is appropriate for use in the risk assessment for this project. This Section must be revised to provide more justification and detail. The actual OSHA study must be included as an appendix if it is to be included in determining risk.

Also see comments provided in comment #17 above.

44. Section 8.5 Task 5 Background Soil Sampling, Page 8-13 and 8-14: This Section must be revised to actually propose the sampling locations. In addition, because the work plan proposes to use MTCA in developing clean up standards, this Section must be revised to conform with WAC 173-340-709, Methods for Defining Background Concentrations. The sample size should be 10 to 20 or more. In determining background concentrations, samples must not have been influenced by releases from other localized human activities, such as highway traffic or wood burning, etc. as the plan proposes.

45. Section 9 Data Evaluation, second paragraph, Page 9-1: The Section must be revised to state that EPA guidelines for the validation of data (EPA QA/G-8, 6/2001) will be used to validate project data. This Section must also be revised to state that EPA, Region 10, Functional Guidelines for the Validation of High Resolution Mass Spectrometry (HRMS) Analysis of Polychlorinated Dibenzodioxin (PCDD) and Polychlorinated Dibenzofuran (PCDF) Data, Revision 5.0, 7/16/01, will be used to validate project PCDD/PCDF data.

Last paragraph, Page 9-1: Revise the work plan to include a table which indicates the

regulatory concentration levels/limits which are applicable to Baxter for compliance with MTCA and Safe Drinking Water Act (SDWA). While the paragraph seems to indicate compliance with these, it is such a generic statement that it is not clear what the values are.

Page 9-1: This Section must be revised to clarify and provide detail on the proposed "risk assessement activity" and how it relates to the modeling proposed at the bottom of the page.

Page 9-2: This Section must be revised to delete the proposal to compare individual CoPC analytes for soil to twice the average anthropogenic background concentrations for each CoPC. The background data set must be evaluated using statistical analysis such as that described in WAC 173-340-709(3). In determining background concentrations, samples must be chosen so that they are not influenced by releases from the site or by releases from other localized human activities, such as highway traffic or wood burning, etc. as the plan proposes.

Second from the last sentence, Page 9-2: This sentence states, "Soil data exceeding background concentrations, and all groundwater and sediment data, will be evaluated under the MTCA program." This sentence must be modified to include applicable federal standards, such as the MCLs. Data must also be compared to the Region 9 Preliminary Remediation Goals. The Section must be revised by inserting a table which identifies preliminarily what MTCA and federal standards may apply at this facility.

Third paragraph, Page 9-2: This Section must be revised to indicate that the electronic data will be provided to EPA as required by Attachment C of the AOC.

46. Section 10 Report Preparation, first bullet of the second set of bullets which describe the Tables, Page 10-1 and 10-2: Summary tables of chemical concentrations must also be compared to Region 9 PRGs.

Please note that when comparing site concentrations to screening levels, residential levels must be used. Even though the property may currently be zoned industrial, land use may change in the future. As an alternative, before industrial screening levels can be used, a proprietary institutional control that effectively limits future use in perpetuity or at least until risks posed by the contamination become acceptable for all uses, must be placed on the property.

Report Preparation, Page 10-1, sixth bullet on the page: The bullet currently reads, "Summary tables of chemical concentrations relative to MTCA screening levels for each medium (surface soil, subsurface soil, stormwater and groundwater) including statistical analysis of chemical occurrences." This bullet must be revised to include other applicable regulations, including but not limited to SDWA, and not only MTCA.

The report must include an appendix of all field notes, logs, chain of custody forms and qualitative data obtained during implementation of the work plan.

The Conceptual Site Model is a living document which changes as new information becomes available. An updated CSM must be included in the SI Report, based on new information.

47. Section 11 Schedule, Page 11-1 and 11-2, the table in this Section: The schedule must be modified to include a date for completing lab Scopes Of Work (SOWs) for analytical work and selection of labs based upon evaluation of lab Standard Operating Procedures (SOPs), lab Quality Assurance (QA) Plan, and experience.

Page 11-1: The schedule must be revised to delete the preliminary meeting to review preliminary results of the SI with EPA. While EPA is willing to meet with Baxter, EPA's participation in a meeting should not be included in the schedule which, when approved will become an enforceable part of the AOC with which Baxter is required to comply. Delete the referenced footnote.

Page 11-1: The table indicates that data validation will be completed 120 days after completing sample collection. Page C-6, Section C of Appendix B of the AOC requires that Respondent shall provide to EPA the validated results of all sampling analysis obtained pursuant to the AOC no later than sixty (60) days of collection. The table must be revised to comport with the AOC requirements.

Page 11-1: The table indicates that data validation on resampled wells will occur 90 days after completing sample collection. Page C-6, Section C of Appendix B of the AOC requires that Respondent shall provide to EPA the validated results of all sampling analysis obtained pursuant to the AOC no later than sixty (60) days of collection. The table must be revised to comport with the AOC requirements.

Page 11-1: The schedule indicates that EPA will be provided with a "data-only report" including data tables and maps. This submittal is acceptable, however, please be reminded that these data must be presented in the SI Report and the revised stand alone data document which is required to be updated annually.

Page 11-1: The first footnote must be deleted. To the extent that weather conditions might affect the planned sampling activities, the force majeure provisions in Section XIX of the AOC govern the extent to which Baxter is entitled to relief from AOC requirements..

Page 11-2: The schedule must be revised to delete the meeting to propose contingency investigations with EPA. While EPA is willing to meet with Baxter at any time, EPA's participation in a meeting should not be included in the schedule which, when approved

will become an enforceable part of the AOC with which Baxter is required to comply.

Page 11-2: The schedule must be revised to delete the meeting to present all data and analysis to EPA. While EPA is willing to meet with Baxter at any time, EPA's participation in a meeting should not be included in the schedule which, when approved will become an enforceable part of the AOC with which Baxter is required to comply.

Page 11-2: The scheduled activity, "Complete SI Report", must be revised to state, "Submit the completed SI Report".

Page 11-2, The last item in the table: This item proposes the preparation of a "corrective action work plan/report". The submittal required by Paragraph 53.a. of the AOC is a "Draft Corrective Measures Study Report". Please revise the table accordingly.

48. Section 12 Public Involvement, second sentence of the first paragraph, Page 12-1: Revise this sentence to read, "EPA has developed a mailing list for the purpose of distributing a Public Notice regarding the AOC and an Open House that was held on April 23, 2000."

49. Section 13: The last sentence of the second paragraph in this Section references a 1998 EPA document. The reference list must be revised to include this document.

Additionally, Region 9 Preliminary Remediation Goals must be referenced in the revised work plan.

Figures

50. Copies of selected historical aerial photos available for the site which depict land use changes over the years must be included in the Figures Section, with some explanation as to the selection criteria used for including photos or not.

51. Figure 2-1, Figure 3-1, Figure 4-6, Figure 4-7, Figure 5-1, Figure 5-2, Figure 5-3, Figure 5-4, Figure 5-5, Figure 5-6, Figure 5-7, Figure 5-8, Figure 6-2, Figure 7-1, Figure 8-1: Provide an explanation as to why these figures depict a new delineation within Parcel A of the Main Treatment Area. The previous draft SI Work Plan's figures depicted the Main Treatment Area extending all the way (west) to the Closed Wood Waste Landfill. Explain this inconsistency.

52. Figure 4-5: This figure must be revised by inserting dashed lines for the precipitation values.

53. Figure 4-8: If more recent wind data are available, please update this figure. Data generated from the Western Regional Climate Center for 1996 through 1999 is enclosed for your use and information.

54. Figure 6-1: This figure must be revised to depict the catch basins where the area below the surface can be seen in the figure (similar to the legend), and where arrows or shading can indicate infiltration. There must also be some indication of infiltration on the surface of different areas. The figure must also depict some indication of the ditches which are on and adjacent to the facility and the flow directions in the horizontal and vertical directions.

Tables

55. Table 8-1: This table is helpful but there are some questions related to the same issue as those in the text. When the changes are made or explained as required by the comments on the test, this table must also be changed correspondingly.

The east side ditch by the railroad has been omitted from this table and must be included. Please clarify if the "other" category on the second page of the table, under the column marked, "Medium", should be groundwater.

Appendix A-Historical Site Data

56. If there is more 2001 data it must be added to the Appendix.

57. Revise the data document to include a table and figures which identify sampling locations as this information is "data" in and of itself.

58. Well and boring logs must indicated the presence of NAPL where it has been observed.

Appendix B–Sampling and Analysis Data Management Plan (QAPP)

59. Title Page: The QAPP has not been approved by the Baxter Environmental Director or by any Hart Crowser or Premier officials. Please resubmit QAPP with the proper signature approvals. It is unclear where Premier fits into the work. The name appears only in the cover page, but they do not sign any of the documents.

60. Page B-2: Please be reminded that Paragraph 65 of the AOC *requires* compliance with EPA *guidance*.

61. Section A4, Page B-3, Project Management: The QAPP does not define the role of Premier. The name appears only in the cover page, but they do not appear on this Section. Please revise the QAPP to include a project organization chart which clearly delineates roles and responsibilities.

62. Page B-5, Lab Personnel: The QAPP must be revised to show that the Project QA

Manager has reviewed and approved the Lab QA Plan and the SOPs that each lab will use to determine if these lab QA documents meet the requirements of the QAPP.

63. Section A5, Page B-6: This Section must be revised to restate the objectives of the work plan and the applicability of MCTA and SDWA since these laws are applicable to the remedy and therefore, applicable to the QAPP's data quality objectives (DQOs).

64. Page B-7: The third paragraph on this page must be expanded to discuss other residences known to be present in the surrounding area.

65. Task 1.1 Soil Investigation, Page B-9: This Section must be revised to indicate what criteria will be used in determining which four soil borings will be converted to groundwater monitoring wells.

66. Section A6, Task 1.1.1, Soil Borings, Page B-9: Soil boring depth must have a contingency in the event that depth cannot be reached using DPT. Refusal and/or depth limitation of DPT is not an acceptable criterion for depth of boring.

67. Page B-10: Revise the first full paragraph on this page to define the term, "opportunistically" or use other terminology in the text.

68. Page B-10: Revise the last paragraph to indicate what criteria will be used in the field to select "no less than two samples" from each boring for chemical analyses.

69. Page B-11: The facility personnel who have knowledge of the spills need to be identified by name to use for future reference. Revise the text accordingly.

70. Page B-11: Modify the second paragraph to clarify the phrase, "Based on the results of field screening."

71. Page B-14: The proposed interval of 100-foot is probably too large to meet the requirements of Section B of Attachment B of the AOC. This was discussed at previous meetings with EPA. EPA's suggestion for delineation of the lateral extent of the plume would be to start at the center of the plume and extend out from that point in all directions. Since the site is relatively small, EPA would recommend an interval length of 50-feet. This too was discussed at the previous meetings. If Baxter chooses to use the 100-foot interval, the work plan must be revised to include a discussion or contingency on what alternate interval will be used at or near the edges of the plume(s). In the effort of minimizing work effort and cost, it may be more prudent to revise the plan to use a 50 foot interval. Revise the text accordingly.

72. Task 1.4 NAPL Investigation, Page B-15: Delete the sentence which currently reads, "EPA approval will be documented in writing and referenced in the final SI Report." Even though EPA is willing to consult with Baxter regarding the final well design,

Paragraph 59 of the AOC states that, "Oral advice, suggestions, or comments [i.e. "consultation"] given by EPA representatives will not constitute an official approval, nor shall any oral approval or oral assurances of approval be considered binding."

73. Task 2 Treated Pole Storage Area, Page B-16: This Section must be revised to describe what the potential "facility conditions" may be that would alter sample station locations. The Section must also indicate what field observations would lead to an increase in the number of samples to be analyzed.

74. Page B-19: Revise the text to clarify if any of the borings in Task 3.1.1 will be converted into monitoring wells. The last sentence of this Section must be revised to specify what field conditions would lead to a change in the depth interval.

75. Task 3.2 Groundwater Investigation, Page B-20: If the only PCP data for groundwater comes from borings which may be turbid, then there needs to be a contingency for locating monitoring wells if the data are only "qualitative" and may not provide a sufficiently low detection level. Tentative locations for wells must be proposed in the event that the preliminary groundwater data are insufficient to define a contamination plume. Revise the plan accordingly.

Also see comment # 36 above.

76. Task 1 Main Treatment Area Investigation DQOs, Page B-23, Page B-24, Page B-25: This Section must be modified to remove the term "reasonable practical estimate" which occurs throughout this Appendix. Attachment A of the AOC requires that the "*full* nature and extent of contamination in all media" be determined.

77. Page B-24: Sediment Investigation. The east side ditch along the railroad must be included in the plans for sampling. Access issues are addressed in the AOC.

78. Task 4 Air Investigation DQOs, Page B-26: The work plan must be revised to provide more detail. See comment #17 above.

79. Task 5 Background Soil Sampling DQOs, Page B-26: Because the work plan proposes to use MTCA in developing clean up standards, this Section must be revised to conform with WAC 173-340-709, Methods for Defining Background Concentrations. The sample size should be "10 to 20 or more". In determining background concentrations, samples must *not* have been influenced by releases from other localized human activities, such as highway traffic or wood burning, or influences similar to those present at the facility, as the plan proposes. The last sentence must also be revised to indicate what is meant by the term, "facility media".

80. Page B-28: This Section must be revised to indicate whether the sampling locations will be measured or located with a GPS to ensure accurate location in the future.

81. Records Retention, Page B-31: Add the following sentence to the end of this Section, "Before destroying any files at the end of this time period, Baxter will inform EPA and provide EPA an opportunity to have the files in accordance with Paragraph 83 of the AOC."

82. Page B-34: Revise this Section to clarify if the GPS will have corrections made to the base station to document accuracy. There must be a table in the final report which has the sampling locations with the names, elevations, type of location (well, boring, soil sample, etc.), and State Coordinate System.
Page B-34: This Section must be revised to identify who will collect samples, ship samples, and audit field sampling activities to determine if QAPP requirements are met.

83. Page B-37: Any sample to be analyzed for volatile organic compounds (VOCs) must not be composited in an open bowl. Revise this Section accordingly.

Third Paragraph, first sentence, Page B-37: Revise the first sentence to state the following, "Soil samples will be collected for laboratory analysis at the depth interval specified in the Site Investigation Work Plan, or at the depth interval determined to be appropriate using field criteria approved in the Site Investigation Work Plan."

84. Page B-39: The decision may be left to the field personnel provided that there are criteria for making the decision and that the criteria are presented in the plan. The plan must be revised to give the criteria that will be used in determining appropriate screen length.

85. Page B-40: All groundwater sampling must be done with submersible pumps, rather than with peristaltic pumps in some cases and with submersible pumps in others, to minimize sampling variability. In addition, the location where the pump intake will be placed within the screened interval must be specified in the plan and measured in the field prior to sampling.

86. Page B-42: The groundwater samples from the DPT are expected to be turbid. Analyses of turbid samples are qualitative only and results will be questionable. Decisions regarding characterization may not be made using analysis from turbid samples.

EPA has observed that the concentrations of unfiltered analysis and filtered analysis can change dramatically, when water/filtrate concentrations are compared to analysis from turbid samples. The change in concentrations between filtered and unfiltered samples is further demonstrated in Table 5-4 which discusses concentrations in stormwater.

Therefore, the work plan must be modified to include a contingency for filtering the samples and analyzing *both* the water and the filtrate, especially in areas expected to have low or non-detectable PCP.

87. Page B-54: The criteria for selecting samples for chloride analysis must be indicated in the plan. The plan must also provide the intended use of the analyses (e.g. comparison between up gradient and down gradient). If the objective is other than simple scientific interest, the plan must explain what the analysis and interpretation is expected to produce and what other data should be obtained. Be aware that EPA will not approve a proposal for natural attenuation without sufficient and valid geochemical data to demonstrate that natural attenuation is occurring. All such data must be collected in accordance with EPA's Monitored Natural Attenuation Policy and "Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water, EPA/600/R-98/128, Sept. 1998.

88. Page B-67: The QAPP must be revised to state that the Project QA Manager will review and approve the Lab QA Plan and SOPs that each lab will use to determine if these lab QA documents meet the requirements of the QAPP. The Section must also be revised to state that the Lab SOWs will be prepared and approved by the Project QA Manager prior to solicitation of labs to analyze samples.

89. Page B-69: The wind rose diagram must be revised to include more recent data. Data generated from the Western Regional Climate Center for 1996 through 1999 are enclosed for your information and incorporation into the revised work plan.

90. Page B-77: This Section must be revised to state that all first round data for the SI will be validated using EPA Functional Guidelines and EPA, Region 10 Functional Guidelines for the Validation of High Resolution Mass Spectrometry (HRMS) Analysis of Polychlorinated Dibenzodioxin (PCDD) and Polychlorinated Dibenzofuran (PCDF) Data, Revision 5.0, 7/16/01. This issue was discussed and agreed upon at the previous meeting with J.H. Baxter, EPA and Hart Crowser. Additionally, please be reminded that Paragraph 65 of the AOC *requires* compliance with EPA quality assurance quality control *guidance.*

91. Page B-78: Same comment as above for Page B-77. Modify the Section accordingly.

92. Page B-81: The reference Section must be revised to include the applicable Sections of the following references: MTCA, SDWA, EPA Region 10 Functional Guidelines for the Validation of High Resolution Mass Spectrometry (HRMS) Analysis of Polychlorinated Dibenzodioxin (PCDD) and Polychlorinated Dibenzofuran (PCDF) Data, Revision 5.0, 7/16/01, Region 9 Preliminary Remediation Goals.

93. All of the Tables in Appendix B: The tables must be revised to state quantitation requirements for all project samples as are required by EPA and the Washington Department of Ecology. For example, for all soil samples, indicate the quantitation requirements as defined by MTCA are and what the spiking levels are. Indicate whether or not these spiking levels meet MTCA quantitation requirements.

94. Figure B-1: This Figure must be revised to clarify why there is a new delineation within Parcel A of the Main Treatment Area, here and throughout the work plan. The previous draft SI Work Plan and the Main Treatment Area extending all the way (west) to the Closed Wood Waste Landfill. Explain this inconsistency

95. Table B-2. This table must be revised to reference Appendix IX of 40 C.F. R. Part 264.

96. Tables B-24 to B-29: These tables must be revised to use the lowest end of the five point calibration curve. This comment was transmitted to J.H. Baxter several times and discussed at length in a technical meeting.

97. Table B-24: This table must be revised to set the spiking level for benzene and trichloroethylene (TCE) at or below the regulated level of 5 micrograms per liter for both compounds. This comment was transmitted to J.H. Baxter several times and discussed at length in a technical meeting.

98. Table B-28: Revise this table so that the spiking level for PCP is at or below the regulated level of 1 microgram per liter. This comment was transmitted to J.H. Baxter several times and discussed at length in a technical meeting.

99. Table B-29: The spiking level for Benzo-a-Pyrene (BsP) must be at or below the regulated level of the EPA MCL of 0.2 micrograms per liter. Please revise the table accordingly. This comment was transmitted to J.H. Baxter several times and discussed at length in a technical meeting.

SOP Section- General Comments

101. The SOPs should be revised to be dated and to indicate that they are to be used at the J.H. Baxter facility in Arlington. In addition, they should be internally consistent with the Field Plan, and not more flexible than what the plan proposes. This issue is most prominent in the Monitoring Well Purging and Sampling SOP.

102. None of the SOPs attached to the QAPP meet EPA guidelines as stated in EPA QA/G-6, March, 2001. For example, none of the SOPs have been reviewed and approved. None of the SOPs have a revision number or revision date or the name of the company who is responsible for the SOP. Please be reminded that Paragraph 65 of the AOC *requires* compliance with EPA quality assurance quality control *guidance.*

SOP Section- Specific Comments

103. SOP-101 Measurement of Groundwater table elevations in wells: This SOP must be revised to include a statement as to how the electric tape has been calibrated, and to indicate that the same tape will be used in all the wells of the facility. If different tapes are used they need to be calibrated to assure that all measure with the same accuracy and precision.

104. SOP 102: The preference for the field plan must be to use "Flow through cells" due to their inherently improved accuracy for such parameters as Dissolved Oxygen and Oxygen Reduction Potential. Please indicate where and why other methods would be used.

105. SOP 301: The various options presented are peristaltic pump, bladder pump, centrifugal pump, or submersible pump, as appropriate which is problematic. Specifically, it is the word "or" that makes this SOP problematic since the pumps work on different principles and different pumps may give different results depending on the parameters of interest.

The use of a bailer is not acceptable except to measure and sample NAPL. Revise the SOPs here and throughout accordingly.

Well Purging. The pump intake must be located within the screened interval, at the middle of the screened interval if fully submerged, unless there is a reason for a different location based on available data or objectives in the sampling.

Groundwater Sampling, number 5. The filtering for inorganic compounds is not acceptable under the sampling proposed in this plan.