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DEPARTMENT OF THE NAVY

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NOV 06 1998

U.S. Environmental Protection Agency
Region III
Federal Facilities Branch
Attn: Mr. Robert Thomson, P.E. (Mail Code 3HS50)
1650 Arch Street
Philadelphia, Pennsylvania 19103

Re: Response to Comments on the Supplemental Field Investigation Plan, Landfill B and the Burning Grounds, St. Juliens Creek Annex Site, Chesapeake, VA

Dear Mr. Thomson:

We are in receipt of your letter dated October 15, 1998. Enclosed please find the response to your comments and the comments provided by the Virginia Department of Environmental Quality (VDEQ).

A site visit to St. Juliens Creek Annex and meeting with members of the Navy, EPA, VDEQ, and BTAG is tentatively scheduled for the first week of December of this year. During this site visit and meeting, these comments and responses to comments will be discussed. As stated in these response to comments, the revised tables, figures, and sections of text will be available for review and discussion during this meeting. With concurrence on these revisions, additional drafts of this workplan will not be required prior to finalizing this document.

The Remedial Project Manager, Mr. Tim Reisch, will be contacting you to coordinate this site visit and meeting.

Re: Response to Comments on the Supplemental Field Investigation Plan, Landfill B and the Burning Grounds, St. Juliens Creek Annex Site, Chesapeake, VA

If you have any questions, please contact Mr. Tim Reisch at (757) 322-4758.

Sincerely,

N. M. Johnson

N. M. JOHNSON, P.E.
Head
Installation Restoration Section (North)
Environmental Programs Branch
Environmental Division
By direction of the Commander

Enclosure

Copy to:
COMNAVBASE Norfolk (Mr. Gary Koerber: Code N45)
VDEQ (Ms. Sharon Wilcox)
Administrative Record File (St. Juliens Creek Annex, Chesapeake, VA)

RESPONSE TO COMMENTS
SUPPLEMENTAL FIELD INVESTIGATION PLAN
LANDFILL B AND THE BURNING GROUNDS
ST. JULIENS CREEK ANNEX SITE
CHESAPEAKE, VIRGINIA

United States Environmental Protection Agency (USEPA)

1.0 GENERAL COMMENTS

1. The document does not include a list of acronyms used throughout the document. This reference should be included at the beginning of the document, typically after the Table of Contents page.

Response: A list of acronyms has been added to this work plan addendum and will be available for review during the meeting to discuss the comments and responses ~~to com~~ments on this work plan and the work plans for the site specific supplemental field investigations.

2. Several sections of the document refer to previous documents for information concerning analytical methods, frequency and types of QA/QC samples, sample collection procedures (including holding times, preservation and sample containers), well construction methods and decontamination procedures. Referenced documents include the previous remedial investigation (CDM Federal 1997) and the RI Work Plan (CDM Federal 1997). It is suggested that the information for the items listed above be provided in the appropriate sections of this document in order to allow this document to stand alone.

Response: The intent of this work plan addendum (and future work plan addendum's) is to efficiently develop site specific work plans and avoid the process of duplicating standard operating details (i.e., method holding times, etc.). As a result, this work plan addendum (and future work plan addendum's) is not intended as a standalone document and is designed to be used in conjunction with "master" work plans.

At this time, the addition of information already included in the above referenced RI Work Plan (CDM Federal 1997) has not been incorporated into this document. However, Section 1.0 of this work plan addendum has been revised to indicate that the "Final Landfill B and The Burning Grounds Work Plan, dated May 1997" should be referenced for pertinent information regarding this supplemental site investigation (CDM Federal is currently developing a Master Work Plan for St. Juliens Creek Annex which will govern all future remedial investigation activities at the Annex).

3. Phosphorus was detected in surface water and sediments at Landfill B and in surface soils and sediments at the Burning Grounds during preliminary investigations. However, phosphorus is not included in the analyte list for the supplemental activities. Phosphorus should be included in the supplemental activities in the media were it was previously detected in order to maintain consistency with previous investigations. Additionally, phosphorus is a contaminant associated with munitions, and therefore should not be eliminated from the COC list merely because it occurs naturally. The determination of whether phosphorus is a COC should be made in conjunction with the finalization of the background study for the facility.

Response: The analysis for total phosphorus for surface water and sediments at Landfill B has been added to Table 3-2 and the analysis for total phosphorus for surface soils and sediments at the Burning Grounds has been added to Table 3-4. The revised tables will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

4. Figures 3-1 and 3-2 show existing and proposed sampling locations for surface water, sediment, and soil. The report states that surface water and sediment have been and will be collected from many of the drainage ditches near the site. The BTAG recommends marking these drainage ditches on the figures as well as elevation contours so that potential transport pathways and new sampling locations can be evaluated. There are also several references to wetlands or marshes in the text where sampling will occur. These areas should be clearly marked on the figures.

Response: Drainage ditches are now identified on Figure 3-1 and Figure 3-2. Available surface contours have not been added due to the lack of sufficient detail necessary to identify small topographic changes. A wetland determination survey has not yet been conducted. References to "wetlands" have been removed from the document and a more appropriate description ("tidally influenced areas") has been added. These areas are now better identified on Figure 3-1 and Figure 3-2. The revised figures will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

5. The BTAG provided comments on work in progress on ecological risk assessments (ERA) for Landfill B (Site 2) and the Burning Grounds (Site 5) in July of 1998. The subject documents state that during the preparation of the ERA as well as during discussions with team members, it became apparent that additional data were necessary to fully define the extent of contamination. It does not appear that proposed sampling addresses the previous comments.

Response: The ERA Work in Progress was intended to present the status of the on-going work at St. Juliens Creek and discuss the overall ERA approach used in the document with the BTAG during a site visit in March 1998. The document

was submitted with known data gaps which were discussed during the March meeting; it was not intended to serve as a draft ERA or as a stand alone document. The sampling proposed in the background investigation and the two supplemental field work investigations at St. Juliens included recommendations of the March 1998 meeting. However, BTAG's written comments on the ERA Work in Progress were received after the submittal of the revised draft of the Background Study and two site specific supplemental field investigation work plans.

From the latest comments received (background study and the two supplemental field work investigations) it is acknowledged that additional sampling is required to address the BTAG concerns, see response to comment # 6 below. It is recommended that a St. Juliens Creek site visit and meeting be conducted to jointly locate these additional samples in lieu of one (or both) of the days BTAG is tentatively scheduled to visit NAS Oceana in Virginia Beach.

6. Although a conceptual model or exposure pathway analysis were not presented in the previous work in progress document or the subject documents, the BTAG continues to assert that site characteristics indicate contaminant migration from the above sites to aquatic areas is probable. Therefore, the BTAG reiterates a request to sample the central area of the tidal wetland and St. Juliens Creek in association with Site 2 and Blows Creek, the estuarine emergent marsh, and the confluence of Blows Creek and the Elizabeth River in association with Sites 3, 4, and 5. We note that background (i.e. upgradient) samples are proposed for St. Juliens Creek and Blows Creek. Once these samples are collected a quick screening level risk assessment should be performed following the 1997 EPA Guidance for Conducting Ecological Risk Assessments For Superfund.

Response: The request for sampling St. Juliens Creek for determining possible impacts resulting from past activities involving Landfill B raises some concerns, however, there is agreement that the possibility of contaminant migration from Landfill B to St. Juliens Creek has not been thoroughly addressed.

Concerns associated with St. Juliens Creek sampling are as follows:

- St. Juliens Creek is located in a very industrialized area with the potential for significant environmental impacts from many sources.

- Samples collected from St. Juliens Creek would be expected to contain numerous contaminants resulting from surrounding area industrial activities.

- Determination of environmental impacts (if any) on St. Juliens Creek resulting solely from Landfill B activities appears to be remote based on the potential for significant contribution of contaminants from industrial sources along St. Juliens Creek and the limited contamination identified within Landfill B during the initial site investigation.

With these concerns in mind but realizing that possible environmental impacts from Landfill B need to be investigated, four (4) "reference samples" are proposed for St. Juliens Creek. Reference samples (surface water and sediment) will be collected at two (2) upstream and two (2) downstream locations of Landfill B. These samples will also be located in depositional environments similar to that observed near Landfill B (e.g., low energy stream flow). The analytical results obtained from these samples will be used in the risk management process and to gain a better understanding of the water quality within St. Juliens Creek. This data will not be used as a screening tool.

One additional surface water and sediment sample is also proposed at the discharge end of a culvert pipe which directs water from Landfill B into St. Juliens Creek (during high tide water flow is actually reversed and flows into the Landfill B site). In addition, during the initial site investigation, one (1) surface water and one (1) sediment sample was collected at the mouth of the culvert which exits the Landfill B area. Both of these locations are most representative of contaminants potentially exiting the Landfill B area and impacting St. Juliens Creek. This data and other ecological site data would be used as part of the ecological risk screening process.

Sampling within Blows Creek also raises some concerns. Due to the tidal impact of the Elizabeth River on the water levels within Blows Creek, and the potential for "washing" contaminants into Blows Creek from the Elizabeth River, surface water and sediment samples would be expected to contain contaminants from the numerous industrial sources in the area. Sampling locations within Blows Creek may not provide helpful site specific assessment data; however, during the initial investigations locations within tributaries exiting a site and entering Blows Creek were sampled to determine the extent of any site related contamination. Additional sample locations following this rationale are proposed for the supplemental field investigation.

During the initial site investigation of the Burning Grounds, two (2) sediment samples were collected immediately north of Blows Creek and south of the site. These samples were found to be more similar to surface soils due to the very limited intermittent flow in this area. However, sampling this area is expected to identify any possible surface water/overland flow contamination originating in the Burning Grounds and entering into Blows Creek. Therefore, three (3) additional surface soil sample locations are proposed for this area.

Landfill D will also be sampled at points downgradient/downstream of the site but prior to entering Blows Creek. Currently, four (4) surface water and four (4) sediment samples are proposed for Landfill D in tributaries flowing into Blows Creek (2 surface water/sediment sample locations were sampled during the initial site investigation). The proposed sample locations are expected to identify any possible surface water/sediment contamination originating in Landfill D and entering into Blows Creek.

Surface water/sediment locations associated with Landfill C are areas of ponded water. No drainage ways or overland flow from Landfill C into either the

Elizabeth River or Blows Creek have been observed. As a result, no direct impacts from Landfill C would be expected.

7. The draft Work Plan indicates that composite samples from 0-2 feet will be collected to evaluate the potential exposures to burrowing organisms as suggested by NOAA. Although this seems like a reasonable approach, NOAA suggests coordination with the BTAG on this issue. Surface soil samples are proposed to be collected from 0-3 inches. Normally, BTAG requests a 0-6 " interval for surface soil collection, and 0-3 " for sediment. A six inch to two foot interval may also be necessary, since sub-surface soil data will be needed for the completion of the ERA.

Response: The intent of the supplemental sampling depths is to satisfy all of the needed data gaps from one location when possible. This will limit the number of sample locations resulting in decreased sample analysis providing as much data as possible using the funds available. Surface soil sample depths will be changed to 0-6 inches for this investigation as well as the supplemental field investigations at St. Juliens Creek sites. These data and the data from the previous sampling events will be used in determining both human health and ecological risk concerns.

The initially proposed range of the composite samples of 0-3 feet, from ground surface to depth where soils would not be impacted by the water table (typically 4 - 5 feet bgs), was thought to be most suitable for potential exposure to burrowing animals. Further scoping of this project identified concerns that the composite range of 0-3 feet may dilute contaminants in these samples; therefore, a composite depth of 0-2 feet was determined to be more appropriate for use in the initial screening in the ERA process. As burrowing animals may go deeper than the proposed 0-2 feet composite sampling interval, the interval may influence potential risk to error on the conservative side. Therefore, this information will be reviewed and discussed in the risk management steps built into the ERA process. The text for the work plan will be revised to provide the rationale in determining the composite soil sampling interval of 0-2 feet. The revised text will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

2.0 SPECIFIC COMMENTS

1. **Page 4, Section 3.3.1.** The report states that subsurface soil at six locations around the perimeter of the site will be collected for the ecological risk assessment, and to confirm the extent of subsurface waste material encountered in the southwest corner of the site. The report further states that subsurface soil samples will be collected from a depth of 0.25 to 2 feet, to evaluate risk to burrowing animals. Please refer to general comment number 7 above.

Response: The sampling interval for the composite soil sample to evaluate risk to burrowing animals is 0 to 2 feet; see response to General Comment #7 above. In addition, these soil samples will be used to assist in delineating the extent of the site. The text will be revised.

2. **Page 8, Section 3.4.1.** The report states that subsurface soil at six locations around the perimeter of the site will be collected for the ecological risk assessment, and to confirm the extent of subsurface waste material encountered in the southwest corner of the site. The report further states that subsurface soil samples will be collected from a depth of 0.25 to 2 feet, to evaluate risk to burrowing animals. Please refer to general comment number 7 above.

Response: The sampling interval for the composite soil sample to evaluate risk to burrowing animals is 0 to 2 feet; see response to General Comment #7 above. In addition, these soil samples will be used to assist in delineating the extent of the site. The text will be revised.

3. **Figure 3-1.** Figure 3-1 shows the existing and proposed sampling locations for Site 2. ~~The B~~TAG recommends sediment and surface water samples be taken from Saint Juliens Creek. The creek likely receives surface water runoff from the landfill due to its proximity. In addition, the creek may receive groundwater discharge from under the landfill that could contribute contaminants to the creek. Sampling locations should include areas where surface water or groundwater seeps enter the creek.

Response: (Refer to Response to General Comment #6 above). Additional sampling locations are proposed for use in the risk management process, and to gain a better understanding of the water quality within St. Juliens Creek. During the initial site investigation, one (1) surface water and sediment sample was collected at the mouth of a culvert which exits the Landfill B area and empties directly into St. Juliens Creek. Additionally, one surface water and sediment sample is proposed at the discharge end of this culvert pipe which directs water from Landfill B into St. Juliens Creek. These sample locations are most representative of contaminants potentially exiting the Landfill B area and impacting St. Juliens Creek; therefore, these data will be incorporated into the ecological risk screening process.

At the present time there are no identified groundwater "seeps" associated with Landfill B.

4. **Figure 3-2.** Figure 3-2 shows the existing and proposed sampling locations for Site 5. Additional samples should be located in Blows Creek. The creek likely receives surface water runoff from the Burning Grounds due to its proximity. In addition, the creek may receive groundwater discharge from the site that could contribute contaminants to the creek. Sampling should include areas where surface water or groundwater seeps enter the creek.

Response: (Refer to Response to General Comment # 6 above). During the initial site investigation of the Burning Grounds, two (2) sediment samples were collected immediately north of Blows Creek and south of the site. These samples were found to be more similar to surface soils due to the very limited intermittent flow in this area. However, sampling this area is expected to identify any possible surface water/overland flow contamination originating in the Burning Grounds and entering into Blows Creek. Therefore, three (3) additional surface soil sample locations are proposed for this area.

At the present time there are no identified groundwater "seeps" associated with the Burning Grounds.

5. **Table 3-2.** Table 3-2 provides a summary of Landfill B sampling and analysis strategy. The table shows that samples will be analyzed for Target Compound List (TCL)/Target Analyte List (TAL), and explosives. Pesticides and PCBs should be included. These compounds were listed as contaminants of potential concern (COPC) in Table 3-1.

Response: The analysis for pesticides and PCB's for surface soil and sediments has been added to Table 3-2. The revised table will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

6. **Table 3-4.** Table 3-4 provides a summary of Site 5 sampling and analysis strategy. The table shows that samples will be analyzed for TCL/TAL, and explosives. The BTAG recommends that samples also be analyzed for pesticides, PCBs, and phosphorus. These compounds were listed as COPCs in Table 3-3.

Response: Total phosphorus for surface soil and sediments have been added to Table 3-4. Pesticides for sediments have also been added to Table 3-4. PCBs are not listed as COPCs in Table 3-3 and have not been added to the analysis in Table 3-4. The revised table will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

7. **Table 3-2 and Table 3-4.** These tables indicate the analyte group for each media to be sampled. However, neither of these tables, nor the associated text indicate whether both filtered and unfiltered samples will be collected for metals analyses for groundwater and surface water samples. Collection of both filtered and non-filtered samples is recommended and should be clarified in the analyte group section of these tables.

Response: Table 3-2 and Table 3-4 have been revised to indicate that groundwater samples will be collected for both filtered and non-filtered analysis. Surface water samples will only be collected for non-filtered analysis to stay consistent with previous investigation activities. The revised tables will be available for

review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

8. **Table 3-2 and Table 3-4.** These tables indicate the analyte group for each media to be sampled. However, neither of these tables, nor the associated text indicate whether low level VOC analysis will be performed for groundwater and surface water samples. Low level VOC analysis is recommended and should be clarified in the analyte group section of these tables.

Response: Table 3-2 and 3-4 have been changed to indicate low-level volatile analysis for groundwater samples. Surface water samples will not be analyzed using low-level methods to stay consistent with previous investigation activities. The revised tables will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

3.0 TYPOGRAPHICAL ERRORS

1. **Figure 3-1.** SB-01 is identified twice in this figure. One SB-01 location is identified on the south-east boundary of the landfill. The second SB-01 is located northwest of the landfill, on the other side of Craddock Street. Since there should be only one subsurface sampling location with the SB-01 designation, subsurface sampling locations should be renumbered as necessary.

Response: Comment noted. Figure 3-1 has been corrected.

Virginia Department of Environmental Quality (VDEQ)

Comment 1 Page 4, Section 3.3.1

Section 3.3.1 states that soil borings will extend to groundwater. Please describe the method being used to seal the borings so that an additional channel is not created for contaminants to enter groundwater. By-the-way, what is the depth to groundwater in the vicinity of Landfill B? It is assumed that either a Geoprobe or hand auger will be used to collect the subsurface samples. At depths below 5 feet hand augers become difficult to operate. If groundwater is at 15 feet it is likely that a powered devise will need to be utilized for collecting subsurface soil samples. This is not a problem in accessible areas; however in marshy and over grown areas this may be difficult. What will be the plan for such an event? Will the sample be terminated at the depth that the hand auger is no longer suitable? Please indicate this in the plan.

Please provide documentation to justify the selection of 0.25 to 2.0 ft. bgs. to be sampled for use in the BERA for burrowing animals. Some burrowing animals will go as deep as 7 feet, and it is common for a groundhog or rabbit to have burrows deeper than 2 feet.

Why are subsurface soil samples being collected from around the perimeter of the landfill for the ecological risk assessment? The whole purpose is to determine the risk from the contaminated area, not areas which may only have been impacted due to waste migration. Will these sample results being used in a contaminant transport model to provide data for the BERA?

Response The boreholes will be sealed with hydrated bentonite powder or pellets which is typical for overburden monitoring well construction. This will be added to the text. As stated in the document (see section 3.1.1), a hand auger or a direct push technology (Geoprobe) rig will be used to collect subsurface soil samples. An SOP for DPT sample collection will be added to the Work Plan and will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations. An SOP for collection of shallow soil using a hand auger is included in Attachment A to the approved Field Sampling Plan (Final Summary Work Plan, Remedial Investigation and Feasibility Study Landfill B (Site 2) and Burning Grounds (Site 5), St. Juliens Creek Annex, Chesapeake, Virginia) dated May 1997. The decision on which sampling method to use will be based on accessibility. Throughout St. Juliens Creek Annex, groundwater is relatively shallow; during the RI at Landfill B, groundwater was encountered at depths between 4 and 6 ft. Although depth to ground water can vary seasonally, it is expected that all subsurface soil samples will be obtainable with a hand auger (if not a DPT rig).

The initially proposed range of the composite samples of 0-3 feet, from ground surface to depth where soils would not be impacted by the water was thought to be most suitable for potential exposure to burrowing animals. Further scoping of this project identified concerns that the composite range of 0-3 feet may dilute

contaminants in these samples; therefore, a composite depth of 0-2 feet was determined to be more appropriate for use in the initial screening in the ERA process. As burrowing animals may go deeper than the proposed 0-2 feet composite sampling interval, the interval may influence potential risk to error on the conservative side. Therefore, this information will be reviewed and discussed in the risk management steps built into the ERA process. The text for the work plan will be revised to provide the rationale in determining the composite soil sampling interval of 0-2 feet. The revised text will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

Regarding sample locations, the locations of the borings may be within the boundaries of the site, as the boundaries have not been accurately defined. The approximate boundaries shown on the figures are based on features observed on historical aerial photographs. Analytical and physical data collected during the initial site investigation indicate that the sites may extend beyond these approximate boundaries. It is the intent of the supplemental sampling to collect contaminated material where present. At Landfill B, four subsurface soil samples are specifically located adjacent to previous surface soil sample locations where elevated concentrations of metals ~~were de~~tected. Additionally a fourth boring is located in an area where fill material was encountered in a previous boring (see Section 3.1.1, second paragraph).

At this time, contaminate transport modeling is not planned, however, detailed transport modeling may be included at a later date.

Comment 2. Whole Document

Please refer to the operating manual and sample testing procedures for all instrumentation used in the field such as the Horiba U-10 Water Quality meter. Another option would be to describe the procedures in the text or in an appendix of the document. For equipment such as the Horiba, include a copy of the relevant sections of the manuals or your customized procedures in the work plan.

Response The standard operating procedures (SOPs) for field instruments are included as Appendix A to the Summary Work Plan Remedial Investigation and Feasibility Study, Landfill B (Site 2) and the Burning Grounds (Site 5) (May, 1997). All work in this supplemental investigation addendum to the document referenced above, will be conducted under the procedures specified in the work plan. Exceptions (such as the use of a hand auger to collect subsurface soil samples) have been noted in this Supplemental Work Plan. Manufacturer's operating manuals will be available and used in the field to calibrate and operate all field instruments.

Comment 3. Page 8, Section 3.4.1

These subsurface soil samples are suitable for identifying extent of subsurface contamination; however, "perimeter" type samples are not acceptable for use in the ecological risk assessment.

Again, I question the selection of 2 feet as the depth for burrowing animals. Please provide documentation supporting your choice of sample depth.

Response As at Landfill B, the extent of subsurface contamination at the Burning Grounds has not been defined. Although previous subsurface soil samples at the Burning Grounds are not suitable for ecological risk assessment, all contained PAHs. It is expected that some of the supplemental borings at the Burning Grounds will be contaminated with PAHs. Regarding sample depths, please see VDEQ Response to Comment #1 and USEPA Response to General Comment #7 above.

Comment 4. Whole Document

Please describe, in detail, the PID meter scanning procedure and subsequent decision making process. What is a high screening reading? I suggest that any screening reading above ambient should be considered a "hit".

Response: It is agreed that any screening reading above ambient will be regarded as a hit. However, PIDs can be sensitive to humidity, therefore, elevated readings from moist samples will be evaluated with this in mind. As noted in the text, other evidence (presence of layers of waste or other visual evidence) will also be considered. More detail will added to the text; the revised text will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

Comment 5. Page 8, Section 3.4.2

If the soil boring is in an area where there is no gravel layer, will the sample be from the 0 to 0.25 ft. depth?

Response The intent of the supplemental sampling depths is to satisfy all of the needed data gaps from one location when possible. This will limit the number of sample locations resulting in decreased sample analysis providing as much data as possible using the funds available. Surface soil sample depths will be changed to 0-6 inches for this investigation as well as the supplemental field investigations at St. Juliens Creek sites. These data and the data from the previous sampling events will be used in determining both human health and ecological risk concerns.

Except as noted in the text, sampling methods will be those specified in the approved work plan (May 1997). The text will be revised to state that if locations are covered with gravel, the gravel will be removed and the top 0.5 feet of native soil will be sampled. The revised text will be available for review during the

meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

Comment 6. General

Samples used to determine the extent of the landfill boundaries and possible migration may be used to provide data for a model, but, are not suitable for either an ecological, or human health based risk assessment on-site. Models used to project contaminant concentrations throughout the life of the contaminants, can be used in the risk assessments. The intended use of the data is not always clear in the descriptions of the sampling point selection and associated text.

Response The intended use(s) of the samples is listed in the "Objective" column of Table 3-2 (for Landfill B) and Table 3-4 (for the Burning Grounds). Samples collected on the "perimeter" (keeping in mind that the true site boundary is not known) will provide data for definition of the extent of contamination. In addition, if they are located within the site boundary, they will provide data for the ecological risk assessment.

Comment 7. Please provide a detailed description of the slug testing procedure to test for hydraulic conductivity. This SOP will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

Response An SOP for hydraulic conductivity measurement using the slug test method will be added to the Supplemental Work Plan and will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

Comment 8. General

How much time (minimum) will be allowed between well construction, well development, well slug testing, well tidal variation testing and well sampling.

Response As specified in the approved Work Plan, the minimum time between well construction and well development will be 24 hours. Previous experience with the development and sampling of monitoring wells at the St. Juliens Creek Annex indicates that the monitoring wells generally recover quickly. All wells will be allowed to recover at least 12 hours prior to either slug testing or the tidal study. Additionally, all wells will be allowed to recover at least 12 hours between the slug testing and the tidal study. These time intervals may be increased if experience with newly installed wells indicates that more time is needed to recover. The text will be revised to indicate these minimum times. The revised text will be available for review during the meeting to discuss the comments and responses to comments on this work plan and the work plans for the site specific supplemental field investigations.

Comment 9. Reference to the Main Body Work plan for the RI May 1997

There have been updates to the EPA Risk Assessment guidance documents as well as to the various ecological and human health risk screening tables. The RI Work Plan references a specific version of these documents. Please note, that for the final RI report, the most current revisions must be used.

Response Comment noted. The most recent revisions of the guidance documents will be used.

Comment 10. Table 3-2

The number of surface soil, surface water and sediment samples indicated on the table do not correspond to the number indicated on figure 3-2 or the text of the document. Please revise this table.

Response Table 3-2 refers to Landfill B, shown on Figure 3-1. Figure 3-2 corresponds to sample locations associated with Table 3-4.