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LETTER AND U S NAVY RESPONSE TO AGENCY COMMENTS REGARDING DRAFT  
SAMPLING AND ANALYSIS PLAN DATA GAPS INVESTIGATION CATEGORY 1 AREAS SITE  
11 TANK FARM 3 AND TRANSMITTAL OF DRAFT FINAL VERSION NS NEWPORT RI  
08/26/2011  
TETRA TECH NUS



## TETRA TECH

C-NAVY-08-11-4553W

August 26, 2011

Project Number 112G02422

Ms. Kymberlee Keckler, Remedial Project Manager  
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Ms. Pamela Crump, Project Manager  
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Rhode Island Department of Environmental Management  
235 Promenade St.  
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Reference: CLEAN Contract No. N62470-08-D-1001  
Contract Task Order No. WE59

Subject: Transmittal of Draft Final Sampling and Analysis Plan  
Data Gaps Investigation, Category 1 Areas  
Site 11: Tank Farm 3, NAVSTA Newport, Rhode Island

Dear Ms. Keckler, Ms. Crump:

On behalf of Mr. Roberto Pagtalunan, U.S. Navy NAVFAC, Tetra Tech is providing to you each three copies (hardcopy and electronic to RIDEM and hardcopy only to EPA) of the draft final document referenced above for your review and comment. Attached to this draft final document are the responses to the EPA and RIDEM comments on the draft document.

In accordance with the FFA, we request that we receive concurrence or resolution of comments on this document by September 26, 2011, which is 30 days from the submittal date.

If you have any questions regarding this material, please do not hesitate to contact me.

Very truly yours,

Dabra I. Seiken, CG  
Project Manager

DIS/lh

Encl.

c: T. Johnston, TtNUS (w/encl - cd only)  
P. Steinberg, Mabbett & Associates (w/encl - 2 paper only)  
K. Munney, USF&W (w/encl - cd only)  
R. Pagtalunan (w/encl - 2)  
S. Parker, TtNUS (w/encl. - 1)  
D. Moore, NAVSTA (w/encl. - 1)  
G. Glenn, TtNUS (w/o encl.)  
Site File, c/o G. Wagner, TtNUS (w/encl - cd only)  
File G02710-3.2 (w/o encl.) File G02710-8.0 (w/encl.)

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**NAVY RESPONSES TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)  
COMMENTS DATED JUNE 3 2011  
SAMPLING AND ANALYSIS PLAN FOR THE DATA GAPS ASSESSMENT  
SITE 11, TANK FARM 3 (APRIL 2011)**

Navy responses to the EPA's comments on the Draft SAP, Tank Farm 3, Naval Station Newport, Rhode Island (April, 2011) are presented below. The EPA comments are presented first (regular font) followed by the Navy's responses (in bold).

**Letter Comments**

Comment 1: The responses to EPA's comments on the Tank Farm 3 SASE indicate that the zone of known contamination at AOC 001 could exist anywhere between seven and twelve feet below ground surface (see RTC for Comment #13b). If correct, please extend the depth of the proposed borings to at least twelve feet below ground surface at AOC 001. Please confirm the current ground conditions at AOC 001. When the burn pit was cleaned, approximately seven feet of fill was removed, sludge was removed from the pit, the pit was cleaned, and the pit was backfilled with the overlying fill soil. Please clarify whether the fill was placed back over the pit area thus restoring the approximate grades that existed before the removal action.

**Response: It appears that the approximate grades that existed prior to the removal action were not re-established after cleaning and backfilling. This would place the contaminated zone at about 7 feet bgs. The bottom of the sand filter was constructed on top of bedrock. To confirm that the previous grades were not re-established following cleaning, the depth of the proposed borings at AOC 001 will be terminated at bedrock. The SAP has been updated to reflect this.**

Comment 2: Groundwater is within the bedrock and likely to migrate via bedrock fractures. Therefore, it is not apparent that the existing groundwater monitoring wells designated for sampling in this SAP are in locations that would capture contamination migrating in the groundwater. Also, it is not apparent that the wells to be sampled are downgradient of the areas of contamination but even if they are it is not apparent that groundwater would migrate in that direction. Unless the monitoring wells have been placed based on an investigation of groundwater fractures it appears that the proposed groundwater monitoring locations are not reliable locations for capturing contamination that might be migrating with groundwater.

**Response: Contrary to what is stated by the reviewer, groundwater always migrates in a downgradient direction. The monitoring well to be sampled at the electrical control house has been changed to be more directly downgradient (see response to specific comment 13). With this change, the existing groundwater monitoring wells proposed to be sampled are located directly downgradient of the AOCs. Figure 2 in the Draft Final SAP has been updated to include groundwater contours. Because the wells are downgradient of the potential sources, they would capture contamination (if any) migrating in the groundwater. EPA's suggestion of a dissolved plume that is controlled by groundwater flow in discrete fractures in bedrock at this point is premature for many reasons, the most obvious being neither a source of contamination nor a groundwater plume has been found.**

Comment 3: The most recent groundwater contouring occurred in June of 1997 (refer to Appendix C of the Draft SASE for Tank Farm 3). At this time, recovery well RW-301 was in operation, which impacted the groundwater contours in the vicinity of the electrical control house. In addition, the ring drains for the UST were operational. As a result, it is not apparent that the June 1997 groundwater contours accurately represent the current or recent historical groundwater flow directions at the site. For this reason and since the groundwater is only located in bedrock, please reconsider the groundwater monitoring plan and locations shown in this SAP.

**Response: The proposed groundwater monitoring program was reconsidered. Groundwater flow patterns on dates other than June 1997 were considered. Updated Figure 2 presents groundwater contours. One change to the monitoring program is proposed (in the Building 227 area, see response to specific comment #13).**

Comment 4: This SAP depicts the location of many site features in locations that are significantly different from those depicted in the Draft SASE report. The responses to EPA's comments on the draft SASE indicate that "location coordinates are not available for some site features and therefore many site feature locations have been approximated." Please explain what was done since those responses were prepared to better locate site features. How accurate are the site feature locations in this SAP? Because we are relying on site feature locations for decision-making, please conduct a GPS survey of pertinent site features before the draft final SAP is prepared so that the available location data are suitable for decision-making.

**Response:** There was a mistake in the Draft SASE report figure showing AOC001. That mistake was corrected. Also, a site reconnaissance was performed to confirm relative locations of structures. A GPS survey prior to sampling is not warranted because sampling will be based upon the location of existing structures and GPS locations of previous samples.

Comment 5: Groundwater at AOC 001 should also be analyzed for dioxins.

**Response:** The transportation pathway of concern is the combustion of sludge/products and subsequent distribution via fallout from the atmosphere. Dioxins are hydrophobic, meaning they are not readily transported in water. Since there was no direct deposition/ release of dioxins into groundwater and because dioxins are hydrophobic, there is no pathway for dioxins to get into groundwater. Therefore, dioxin analysis of groundwater is not warranted.

Comment 6: In Appendix A on the selection of PAHs and dioxin background levels, a 1994 New England study for PAHs and a 1994 external review draft paper from EPA for dioxin were used to determine background values for PAHs and dioxins in soil at the Tank Farm 3 site. These are both outdated papers and the EPA paper is a draft, for review purpose only and does not constitute EPA policy and therefore should not be used for the site. Site-specific background studies and statistical analysis should be used instead to determine background levels. If site-specific background data are not available, these constituents should be further evaluated.

**Response:** The background dataset from the literature provided in Appendix A will not be used at this time to eliminate contaminants the Draft Final SAP has been amended to reflect this change.

### **Specific Comments**

Comment 1: p. 12, Worksheet #5: The organization chart should identify Kymberlee Keckler as the EPA RPM, as in Worksheet #3. Please correct.

**Response:** The correction has been made.

Comment 2: Worksheet #9:

- a) This worksheet contains two separate pages both identified as the January 13, 2011 Scoping Session. Please correct the redundancy.

**Response:** The reviewer is correct that there are two items with the same date on them in Worksheet #9. However this was intentional because two separate items were concluded/ agreed upon in the January 13, 2011 response to comments. In order to clarify, because there was no meeting on January 13, 2011, the identifying remarks has been changed from "Date of Session" to "Date of Agreement" and "Scoping Session Purpose" to "Purpose".

- b) The date for the Scoping Session on March 23, 2011 conflicts with the date presented in Worksheet #2 for this session (March 24, 2011). Please correct.

**Response:** The date on both of the worksheets has been changed to March 16, 2011, the date of the RPM meeting.

- c) The January 13, 2011 Scoping Session presented in this worksheet is not included in the sessions listed in Worksheet #2. Please correct the discrepancy.

**Response: The January 13, 2011 “session” was actually the date that the Navy issued correspondence where an agreement on the two items was made. Please see Navy’s response to 2a above for an explanation of the changes to Worksheet #9 that has been made to clarify.**

Comment 3: p. 25, §10.3: The last sentence states that groundwater flows in an easterly/northeasterly direction toward Narragansett Bay. If that flow direction is correct, groundwater flows toward Lawton Brook, not Narragansett Bay. Please correct as appropriate.

**Response: The sentence has been changed to read: “Groundwater flows northerly in the western portion of the Site, toward Narragansett Bay. Groundwater flows easterly or northeasterly in the eastern portion of the Site, toward Lawson Brook”.**

Comment 4: p. 25, §10.4: Please correct the reference in the last sentence on this page to read (*TtEC 2005*) to be consistent with the date in the document list presented here and in the References.

**Response: The date has been corrected to 2005.**

Comment 5: p. 27, §10.4.1: It is not clear why the emergency response discussion in the last paragraph is included in Section 10.4.1 that discusses AOC 001. If the leaking pipe referenced was associated with the former burn chamber, please clarify and include a figure that shows the extent of the removal action. If that is the case, then PAHs, dioxins, and metals are of concern. However, the emergency removal action conducted did not address these contaminants. This is a data gap.

**Response: This emergency response discussion is included in Section 10.4.1 because the response and remediation occurred inside the AOC001 area. The leaking pipe referenced was not associated with the former burn chamber. The pipe that leaked was a 12-inch diameter jet fuel pipe that connected Tank Farm 3 to Tank Farms 2 and 1. A sentence has been added to the beginning of this paragraph to indicate that this is unrelated to the former sand filter/ burn chamber.**

Comment 6: p. 30, §10.5:

- a) The second sentence in the second bullet states that the groundwater flow direction is to the west. This contradicts the subsequent sentence and previous discussions of the groundwater flow direction that indicate that groundwater flows to the east and northeast. Please correct as appropriate.

**Response: Groundwater flow in the vicinity of AOC001 is to the northeast. The typo has been corrected.**

- b) Please correct the last sentence in the second bullet to indicate that the additional analytes for groundwater at AOC 001 include metals, PAHs, and dioxins.

**Response: To be consistent with the SAP, PAHs and VOCs has been added to the list of analytes to be analyzed for in groundwater from AOC 001. Groundwater is not to be analyzed for dioxins.**

Comment 7: p. 31, §10.5:

- a) The second last paragraph states that groundwater is currently inaccessible to receptors. To verify this, please indicate whether groundwater discharges to Lawton Brook or indicate what the groundwater depth is at the brook. If groundwater discharges to the brook, it should be considered accessible.

**Response:** It is likely that groundwater discharged to Lawton Brook. The sixth sentence of this paragraph has been changed to: "With the exception of where it discharges into Lawton Brook, groundwater is not currently accessible, as there are no water supply wells at the site."

- b) Because EPA considers the top twelve inches to be surface soil, please clarify that shallow subsurface soil is accessible to some terrestrial receptors.

**Response:** Agreed. As acknowledged by USEPA in the July 20, 2011 RPM meeting, for ecological risk assessment purposes only the top 12 inches of soil are considered.

Comment 8: p. 32, §11.1: Please add the following new sentence after the third sentence: *These petroleum-related VOCs and PAHs are expected to be commingled with the CERCLA contaminants released during sludge burning.*

**Response:** Agreed.

Comment 9: p. 34, §11.2.1: The third bullet states that the vertical datum for survey work will be MLW. A different vertical datum (NGVD 1929) was proposed for the Tank Farm 2 SAP. Please confirm that the MLW datum is consistent with the previous datum used for Tank Farm 3 work and/or that it is the intended vertical datum to be used at the Site.

**Response:** This will be confirmed prior to the survey work. It depends upon the most accessible benchmark. The text has been amended to reflect that either datum could be used.

Comment 10: p. 35, §11.2.2: Please rewrite the first bullet to more clearly explain the rationale for sampling at AOC 001. Unless VOCs are a potential combustion byproduct, the bullet should read similar to: "For AOC 001, concentrations of PAHs, dioxins, and metals in surface and subsurface soil, sediment, and groundwater are needed. These analytical groups were identified as the most likely classes of contaminants associated with the burning of petroleum sludge and these data are needed to determine whether a risk assessment is necessary. In addition, data for non-chlorinated VOCs and PAHs, that are components of aviation fuels, are needed because the ring drain system discharged these contaminants through the burn chamber and these contaminants may be commingled with the combustion products."

**Response:** VOCs are not a potential combustion byproduct. The bullet has been re-written to be more clear.

Comment 11: p. 36, §11.2.3:

- a) The second last paragraph states that non-detected results greater than the PSLs will be treated as values less than the PSL for decision-making. Because the purpose of the sampling is to screen the site, the screening criteria should be selected to conservatively capture potential contamination rather than to eliminate potential contamination of concern. Therefore, this sampling and analysis program should be designed accordingly and non-detected results greater than the PSLs should be treated as exceedances or as data gaps. Please edit the document accordingly.

**Response:** The screening criteria and analytical methods were selected to conservatively capture potential contamination. Nonetheless, some chemicals have PSLs below the value associated with non-detects (the LOD or EDL). If a chemical has been previously detected in any medium at the site, or is detected at least at one location during this investigation, then it is more likely to be present at concentrations between the LOD and the PSL than if it has never been detected at the site. Accordingly, the first sentence in the referenced paragraph has been changed to the following:

For the purpose of making the decision identified in Section 11.4, non-detected results with associated values greater than the PSL will be treated as values that are less than the PSL if the chemical was not detected in site media during this investigation or in previous investigations;

otherwise, such results will be assigned a value equal to one-half the LOD (or, for dioxins, one half the EDL).

Regardless of the screening results, the project team may still determine that non-detects with associated values above the PSL create a data gap. As stated in the same referenced paragraph, the “limitations on data usability due to unmet sensitivity goals must be evaluated” (this will be changed to “will be evaluated”), and the data usability assessment “will evaluate whether the inability to detect or quantify an analyte at levels equal to or less than the PSL has an adverse effect on decision making.” If so, the project team is to determine what steps should be taken. As stated in the Performance Criteria section (11.5.1), “The project team will review the data as part of the data usability assessment described in Worksheet #37. If any significant data gaps are identified, the Project Team will determine the next appropriate step.” To clarify further, the last sentence in the referenced paragraph in Section 11.2.3 has been changed to “... will evaluate whether the inability to detect or quantify an analyte at levels equal to or less than the PSL creates a data gap that has an adverse effect on decision making.”

Related to this comment is the issue of the appropriateness of the screening criteria selected for this project and used to determine the PSLs (lowest criteria for each chemical). The EPA protection of groundwater soil screening levels were originally included as screening criteria because they may be used during a risk assessment in the evaluation of the potential for chemical migration from soil to groundwater. However, these screening criteria would not be used to screen for contaminants of potential concern that are used to determine potential human health risks for site media. Therefore, they are not appropriate for the risk screening purposes of this project or for determining the analytical methods needed and so has been removed. The effect will be to eliminate some of the chemicals for which the PSL is lower than the LOD.

b) The last sentence should refer to *Section 11.4.2 Background Comparisons*.

**Response: The correction has been made.**

Comment 12: p. 37, §11.3.1: The discussion in the third paragraph refers to sediment sampling location SD-02 in Figure 2 as an upstream/reference sample location. Based on a groundwater flow direction that is easterly to northeasterly as discussed in this SAP, it appears that SD-2 is likely to be impacted by releases from Site operations and even potentially from operations at a Category 1 area (the electrical control house). Therefore, only SD-1 should be considered a reference/upstream location.

**Response: SD-01 and SD-02 are only upstream/ reference location with respect to AOC-001. They could have been impacted by other activities. The text has been clarified.**

Comment 13: p. 38, §11.3.3: Regarding the third paragraph that discusses groundwater impacts, it is not apparent from review of Figure 4 that relevant groundwater monitoring wells are located in positions that would detect contamination from Building 227 if groundwater flows east to northeast as this SAP states. Therefore, a supplemental groundwater monitoring well(s) is necessary to confirm the absence of groundwater impacts from Building 227 especially where the soil screening level concentrations are exceeded. Since the groundwater is in bedrock, fractures will apparently determine the groundwater flow direction.

**Response: Please see the revised Figure 2 for groundwater contours. Monitoring well GZ-318 will be substituted for well GZ-328, as it is more directly downgradient from Building 227. Please see the revised Figure 4 for the location of GZ-318. The Draft Final SAP has been updated to reflect this change.**

Comment 14: p. 39, §11.4.1: The fifth bullet should instead refer to *Section 11.4.2 Background Comparisons*. Please correct.

**Response: The correction has been made.**

Comment 15: p. 40, §11.4.2: No site-specific background data are available for PAHs and dioxins for the site and it is not appropriate to eliminate contaminants at this stage of investigation based on literature background values. Decisions for these contaminants in the Category 1 AOCs should be made without consideration to background and if background concentrations appear to be potentially relevant, then further discussions and a background study are recommended.

**Response: The background dataset from the literature provided in Appendix A will not be used at this time to eliminate contaminants. The Draft Final SAP has been amended to reflect this change.**

Comment 16: p. 42, Worksheet 12: Please delete Note #3 for this worksheet.

**Response: Per Table 3-2 of SW-846 Chapter 3, Revision 4 (September 2007), the only temperature preservation requirement for TAL metals is for mercury in solid samples. The footnote has been revised to "For metals, the MPC is only applicable for mercury in solid samples." Worksheet #19 will also be revised to reflect the temperature requirement for mercury only in solids.**

Comment 17: p. 54, Worksheet 15b: EPA Method 8011 is better suited for analysis of EDB because it has a much lower detection limit (~0.01 µg/L). Although the PSL cannot be achieved with 8011, the MCL can and therefore, EPA recommends the use of this method for EDB. Please edit the SAP accordingly.

Please clarify why EDB will not be analyzed by Method SW 846 8011. Method 8011 will have a significantly lower reporting limit for EDB compared to 8260B.

**Response: The SAP has been revised to specify analysis for EDB in groundwater samples by EPA Method 8011.**

Comment 18: p. 55, Worksheet 15b: The PSLs for arsenic and chromium are almost fifty times lower than the other metals, and the laboratory cannot meet the project goals for either metal. Please clarify why the MCLs are not being used for arsenic and chromium.

**Response: The PSLs for this project are the lower of the MCLs, the EPA tapwater RSLs and the EPA vapor intrusion guidance. The tapwater RSLs were chosen because those criteria would be used to screen the data if a risk assessment were performed. Screening against the RSLs during this project will allow the Project Team to determine whether a risk assessment is needed. In addition, including the RSLs in the determination of the PSLs in Worksheet 15 ensures that methods will be chosen to achieve analytical sensitivity that is sufficiently low for the data to be used if a risk assessment is performed. Although the LOQs and LODs for arsenic and chromium are higher than the RSLs, screening against the RSLs will be more useful than just screening against the MCLs because results may be detected that are lower than the MCLs but higher than the RSL.**

Comment 19: p. 63, Worksheet 17: The first paragraph under Building 227 refers to the collection of a groundwater sample from well GZ-334. This well is located northwest of Building 227. Section 10.1, paragraph one states that groundwater flows to the east and northeast. Therefore, GZ-334 is not apparently in a downgradient location. Please supplement this SAP with documentation regarding the groundwater flow direction for Tank Farm 3 and confirm that the wells selected for monitoring are downgradient of the areas of contamination. If they are not, add wells in appropriate downgradient locations for sampling. Note also that groundwater is in bedrock and therefore, fractures will determine the groundwater flow direction.

**Response: After further consideration, the Navy will sample GZ-318 which is more directly downgradient of Building 227 than GZ-328. The Draft Final SAP has been changed accordingly. Figure 2 has been updated to include groundwater contours.**

Comment 20: p. 65, Worksheet 17: Table 17-1 indicates that monitoring well GZ-328 will be sampled to characterize groundwater downgradient of the electrical control house (Building 227). However, the discussion on page 63 states that well GZ-334 will be sampled. Please correct. Because well GZ-328 is north of the electrical control house, it is not likely in a downgradient location either. A new groundwater

monitoring well will need to be installed unless there is an appropriate existing downgradient well in the vicinity of the electrical control house.

**Response: The well that will be sampled is GZ-318. Figure 2 (updated) shows groundwater contours. Please also see Navy's response to EPA comment #13**

Comment 21: p. 66, Worksheet 18: Please re-evaluate the groundwater sampling locations and analytes identified based on the comments herein.

**Response: Locations and analytes were re-evaluated. See responses to other comments.**

Comment 22: p. 67, Worksheet 19: Please correct the table note number used for the holding time for PCBs. The number should be (5) to conform to the note text on page 68.

**Response: The correction has been made.**

Comment 23: p. 69, Worksheet 20: Dioxins should be an analyte for AOC 001 groundwater. Please edit this table and the SAP accordingly.

**Response: See Navy's response to EPA general comment #6.**

Comment 24: p. 88, Worksheet 27: In the last sentence under Field Duplicates, change *TF4* to *TF3* and in the last sentence under Rinsate Blanks change *TF2* to *TF3*. Also, close the parentheses after "MW" for the Trip Blank discussion.

**Response: The corrections have been made.**

Comment 25: p. 97, Worksheet 28e: The matrix spike recovery is listed as 80-120% under the Method Acceptance Limits, but it is 75-125% under the Measurement Performance Criteria (MPC). Please correct as appropriate.

**Response: The MPC has been changed to "Same as Method/SOP QC Acceptance Limits."**

Comment 26: p. 111, Worksheet 36: For the metals discussion under Validation Criteria, please delete Method 6010C which has not been proposed for this SAP (see Worksheet 19).

**Response: Method 6010C has been deleted.**

Comment 27: Figure 3:

- a) Because of the uncertainty about the specific direction of groundwater flow, please complete boring TF3-001-SB-101 as a groundwater monitoring well and sample it in addition to GZ-301. Please edit the SAP accordingly.

**Response: Please see the updated Figure 2 that shows groundwater contours. GZ-301 is directly downgradient of AOC-001 and a second groundwater monitoring point is not warranted.**

- b) If the terminus of the burn chamber discharge line is depicted correctly in this figure, then the investigation at SD-03 needs to be a boring not just a surface sediment sample. As was discovered at Tank Farm 4, a significant layer of contamination may exist beneath the surface layer owing to years of discharging contaminated water. The same concern exists throughout the wetland area and surface samples are not likely to be adequate for investigating the wetland area. Please include subsurface sampling of the wetland for this SAP over a broader area than proposed.

**Response:** Sediment sample locations SD-03, SD-04 and SD-05 shown on Figure 3 will be updated to borings. The borings will be advanced to 5 feet bgs or refusal (whichever comes first). These borings will be advanced by hand augers. In addition to the surface sediment sample collected from the 0-6 inch interval, a subsurface sediment sample will be collected from each boring. The depth of the subsurface sediment sample will be based upon visual and olfactory observations and PID screening in order to collect the subsurface sediment from the most contaminated depth, based upon the discretion of the FOL. If evidence of contamination is not present, the deeper samples will be biased towards the finer grained material. These deeper sediment samples will be analyzed for VOCs, PAHs and metals.. The results of the deeper sediment samples will be used for nature and extent delineation. Appropriate sections of the Draft Final SAP have been updated.

- c) Please clarify how and when the wetland boundary shown on this figure was established. It may no longer be accurate.

**Response:** Acknowledged. The wetlands delineation was part of a Naval Station Newport project done in 2003 and the wetland information was reportedly taken off the National Wetland Delineation Report.

- d) Please clarify the current status of the bottom sediment and water line shown. If it terminates near the brook as shown and in Figure 2, then supplemental sampling at and downstream of the discharge location is warranted for AOC 001 contaminants.

**Response:** Prior to 1974, the tank bottoms were pumped to the sand filter. Between 1974 and the mid -1990's when fueling operations at tank farm 3 ended, the tank bottoms were disposed of at off-site facilities. There is no current discharge of bottom sediment water at the site.

- e) The reference to TtEC 2004 in the Legend should be TtEC 2005 (see page R-1).

**Response:** The change has been made.

Comment 28: Figure 4:

- a) There is no groundwater monitoring well shown on this figure that is clearly in a downgradient location from the electrical control house. Either document that an existing well is downgradient of the electrical control house or complete one of the proposed borings (e.g., TF3-ECH-SB-101) as a downgradient monitoring well and sample it for this SAP.

**Response:** Well GZ-318 is directly downgradient from the Electrical Control House (Bldg 227) and will be sampled. Well GZ-318 has been added to Figure 4. The SAP has been updated to reflect this change. Please see Figure 2 (updated) for groundwater contours.

- b) Please change the reference to TtEC 2004 in the drawing notes to TtEC 2005 (see page R-1).

**Response:** The change has been made.

Comment 29: Figure 5: Please document that groundwater monitoring well GZ-314 is in a downgradient location to the two transformers because it is not apparent from the discussion of the groundwater flow direction. If this cannot be documented, then construct a downgradient monitoring well, possibly from one of the proposed borings (e.g., TF3-020-106). Note also that groundwater is in bedrock and therefore, fractures will likely determine the groundwater flow direction.

**Response:** Please see Figure 2 (updated) for groundwater contours that show GZ-314 is downgradient of the transformers.

Comment 30: Figure 6: To be complete, this conceptual model should include airborne migration of sludge burning byproducts. However, the SAP text assumes that contamination spread by air would be too dilute to contribute to risk. Therefore, please add a note to this figure.

**Response: The figure has been updated as suggested.**

Comment 31: Appendix A: This appendix suggests literature-based background concentrations for PAHs and dioxins in soil for use at Tank Farm 3. The proposed values for PAHs are based on samples collected from urban areas much larger and more densely populated than that in the vicinity of Tank Farm 3. Further, the proposed background values result in exceedance of EPA's acceptable risk range for residential exposure and a cumulative risk for industrial exposure in excess of RIDEM's criterion of  $1 \times 10^{-5}$  excess lifetime cancer risk based on Regional Screening Level concentrations. Screening decisions for these contaminants in the Category 1 AOCs should be made without consideration to background and if background concentrations appear to be potentially relevant, then further discussions and actions, including conducting a background study, would be appropriate.

**Response: The background dataset from the literature provided for PAHs and dioxins will not be used at this time to eliminate contaminants. The Draft Final SAP has been amended to reflect this change.**

Comment 32: Appendix C:

- a) Please correct references in the field forms to ensure that they refer to Tank Farm 3.

**Response: The corrections have been made. Revisions also have been made to correct the job number.**

- b) GRO and ExTPH are not analytes of concern for this SAP. Please correct the forms in this appendix to delete references to those analytes.

**Response: GRO and ExTPH have been deleted and EDB has been added to, the QA Sample Log Sheet.**

Comment 33: Appendix D, p. L-2-2:

- a) The first paragraph states that dioxins will not be collected from the subsurface soil sample at AOC 001 if the subsurface sample analyzed is collected at a depth greater than four feet. This is not consistent with the discussion of AOC 001 in Worksheet #17 or in Table 17-1 where no such limitation is identified and it is inappropriate considering that the site has been covered with fill. Please collect two dioxin samples for each boring at AOC 001 irrespective of the depth of the sample.

**Response: Agreed. Appendix D has been corrected.**

- b) The discussion in the second paragraph needs to be rewritten to more accurately describe the procedure to be followed. For example, the first sentence should refer to each interval to be collected, not each interval to be sampled. The text should state that one sample will be collected from the surface interval for analysis plus another sample from a field-identified subsurface interval. Each jar headspace sample needs to be collected as close as possible to the most heavily contaminated portion of the collected interval. Presumably multiple VOC samples will initially be collected, one from each soil interval collected and the subsurface VOC sample selected for laboratory analysis will be determined after all the soil intervals have been field evaluated.

**Response: The first sentence has been changed from "For each interval to be sampled" to "For each continuous 2-foot interval". Other edits as requested have been made.**

- c) Please change the reference in the third paragraph from 4°C to 6°C which is used throughout the rest of the SAP.

**Response: The reference has been changed to “≤ 6 oC”.**

Comment 34: Appendix D, p. L-2-5:

- a) For consistency throughout the SAP, please refer to the monitoring wells here as GZ-XXX rather than MW-XXX.

**Response: The correction has been made.**

- b) The reference to MW-302 in the first bullet is not consistent with the rest of the SAP, which refers to GZ-301 as the well selected for sampling at AOC 001. However, please refer to EPA's comments on the groundwater monitoring wells selected in this SAP for sampling.

**Response: The reference in the first bullet will be corrected to GZ-301. Also, EDB will be added to the list of analytical groups for this location.**

**NAVY RESPONSES TO RHODE ISLAND DEPARTMENT  
OF ENVIRONMENTAL MANAGEMENT (RIDEM)  
COMMENTS DATED JUNE 16 2011  
SAMPLING AND ANALYSIS PLAN FOR THE DATA GAPS ASSESSMENT  
SITE 11, TANK FARM 3 (APRIL 2011)**

Navy responses to the RIDEMs comments on the Draft SAP, Tank Farm 3, Naval Station Newport, Rhode Island (April, 2011) are presented below. The RIDEMs comments are presented first (regular font) followed by the Navy's responses (in bold).

**Letter Comments**

**Comment 1:** In regards to the applicability of the regulatory programs, the Navy has proposed segregating the Site into Category 1 areas to be addressed under CERCLA and Category 2 areas to be addressed under RIDEM UST regulations. This Office concurs with the proposal to segregate the Site; however, it would seem prudent to clarify the following: Category 1 areas will still have to meet RIDEM regulatory requirements; and Category 2 areas are subject to all applicable RIDEM regulatory requirements. As noted in the attached comments, there are potential Category 3 areas as well, which are also under the State's jurisdiction. Please be advised that independent of the recommendations in this SAP, RIDEM will determine which regulatory programs and requirements are applicable to each category and area of concern.

**Response: Comment noted. This SAP only covers Category 1 areas. Also see Navy responses to comments below.**

**Comment 2:** Finally, as indicated in previous correspondences, there are additional areas such as tanks, underground fuel distribution lines, sump pump chambers, and other areas that exceed RIDEM's criteria which warrant additional investigation as either Category 1, 2 or 3 areas.

**Response: This SAP only covers Category 1 areas. Also see Navy responses to comments below.**

**Specific Comments**

1. Page 3, Executive Summary; 5<sup>th</sup> paragraph, 1<sup>st</sup> sentence.

Please add Category 3 to this paragraph for areas jurisdictional under RIDEM's Site Remediation Regulations.

**Response: The following sentence will be added as the second sentence of paragraph 5 of the executive summary: "*Category 3 areas would be areas regulated under other programs, such as RIDEMs Site Remediation Regulations, have not been identified and agreed upon by the project team.*"**

2. Page 3, Executive Summary; Bullets.

Please add the following additional areas of concern to this list:

- *Electrical Substation (located in the southwest corner of Tank Farm 3)*

As stated in RIDEM's response to the Navy's comments on the Draft SASE for Tank Farm 3 dated 3/23/11, the Electrical Substation located in the southwest corner of Tank Farm 3 needs to be investigated. Analytical samples should include PCB soil and concrete samples. Please add this electrical substation to this SAP.

**Response: The substation in question is not part of Tank Farm 3 and the substation is still active. Accordingly, there are no plans to investigate the substation.**

- *Building 108 - Foamite Pumphouse (located near the fenceline in southwest corner)*

Building 108 is not shown on any of the figures in the Draft SASE or this SAP. Building 108 is shown on the Master Shore Station Development Plan Part IV section 6 Area Development Plan no: 638080 dated 1954. Please add building 108 to this SAP.

**Response: Building 108 no longer exists. Building 108 was noted as "Pump House-Foam System (Security)" on old drawings and appears to have just housed the switch gear to activate the fire suppression system and doubled as a security shed. Investigation of the former location of Building 108 is not warranted.**

- *Building 229 – Stripper Pit/Chamber*

Refer to RIDEM's response to the Navy's comments on the Draft SASE for Tank Farm 3 dated 3/23/11. The location of the stripper pit/chamber is in the area labeled "Stripper Valve Point" on Figure No. 2. Please add building 229 to this SAP.

**Response: Because the stripper valve point is inside AOC-001, this location will be visually observed and documented during the data gaps investigation. However, the stripper valve point is at the end of a run of petroleum distribution lines which were previously cleaned and decommissioned. There is no Building 229.**

- *An additional oil/water separator (possibly OWS #4)*

As stated in RIDEM's response to comment #1b of the Navy's comments on the Draft SASE for Tank Farm 3 dated 3/23/11, there is still a question of whether or not an oil/water separator #4 existed based on the evidence found in the Draft Work Plan for Site Closure, Tank Farm 3 (FWENC 2002) as well as the fact that this OWS is depicted on various figures for this site. Please add OWS 4 to this SAP.

**Response: Navy researched this issue and the Work Plan for Site Closure is in error. OWS#3 is the operational OWS for the site and has been the operational OWS for the site. The "various figures" mentioned above are based upon the Draft Work Plan for Site Closure which is in error. There is no OWS#4. Please also see Navy's 6/13/11 response to RIDEM comments on the Draft SASE.**

- *Former sludge disposal/landfill area*

This area contains concentrations of contaminants above RIDEM's criteria and this area appears to be a landfill. Please add the fill area to this SAP.

**Response: The possible sludge area northwest of Tank #69 has been thoroughly investigated. Within this area: 36 soil samples were taken and analyzed; four magnetometer surveys were completed; monitoring wells were installed; groundwater sampling and analysis was completed, and soil gas survey sampling was completed. (Please see the Navy's response to RIDEM comments on the Draft SASE for Tank Farm 3 for a summary of the extensive investigations in this area.) This possible sludge area has been investigated and does not warrant further investigation or remediation.**

The Navy believes that the reviewer is referring to AOC-017 (north of Tank 69) when the reviewer refers to a “landfill area”. This is not a landfill area. This is an area where debris fill was observed during the SIRAR. This area was investigated and contains reinforced concrete and asphalt debris. Despite the fact that elevated concentrations of some PAHs in soil in this area are attributed to asphalt, Navy has agreed to additional investigation. However, because the presence of debris does not constitute a CERCLA release, this work will be performed as Category 2 or Category 3 and will therefore not be part of this SAP, because this SAP covers only Category 1 (CERCLA) areas.

- *Sludge pits*

According to the Work Plan dated September 2007, DLA had proposed to investigate the areas around the tanks in Tank Farm 3 to determine the locations of sludge pits. However, the investigations proposed in this work plan were never conducted. Please add these areas around the tanks to this SAP.

**Response: This SAP only covers the Category 1 areas of the Site. The presence of sludge (without burning) would be investigated/ remediated under RIDEM UST regulations (Category 2). Finally, the possible presence of sludge pits has been thoroughly investigated at the Site. No further investigation is warranted based upon the existing data**

- *Fence line*

Please propose in this SAP to collect a representative number of samples from along the fence line to be analyzed for TPH, lead, arsenic and pesticides. At a minimum, collect one surface soil sample from each side of the fence (north, south, east, and west).

**Response: The Navy does not believe that the fence is a source of contamination and there is nothing there that suggests a release along the fence line. There is no plan to investigate the fence line soils, but the Navy agrees to discuss this further with RIDEM.**

3. Page 4, Executive Summary; 3<sup>rd</sup> paragraph.

As stated in RIDEM's response to the Navy's comments on the Draft SASE for Tank Farm 3 dated 3/23/11, there appears to be a possible drain located inside Building 227 beneath the air/water stripper. The inside of the building should be investigated for any possible sources of contamination (including switches, sumps, and drains) and appropriately sampled. If the drain is found, the drain needs to be investigated and the terminus tracked and investigated. Analytical samples should be collected at the terminus and beneath the length of the pipe. Additional areas along the exterior of the building should be sampled for lead and other appropriate contaminants.

**Response: On April 20, 2011, Tetra Tech visually checked Building 227 and a drain was not observed. The SAP already addresses the exterior of the building and the potential underground pipe location at the south end of the building. Navy will perform a site walk prior to sampling and will invite the RIDEM and the USEPA to attend so the regulatory agencies can concur with sampling locations. The performance of a site walk will be added to Section 14 of the SAP.**

4. Page 13, Worksheet #6, Communication Pathways.

Please add the appropriate language to this table that states if any change to the Final SAP is proposed by the Navy, the Navy will submit the proposed changes to the regulatory agencies for review and approval before the work is executed.

**Response: The purpose of Worksheet #6 is communication between the Navy and Tetra Tech. Please note that changes to the Final SAP will be handled either by field modifications or a Revised Final SAP. If a Revised Final SAP is required, the Navy will submit it to the regulatory agencies, as is protocol.**

5. Page 22, Section 10.1, Site Location and Background; 1<sup>st</sup> paragraph.

*“Groundwater flow at the Site is to the east and northeast.”*

As stated on p. 3-7 (last paragraph) in the SASE for Tank Farm 3, “groundwater at the site appears to flow northerly to northwesterly towards Lawton Brook and Narragansett Bay”. Please explain and correct this discrepancy as needed in the response to comments.

**Response: Because the site encompasses about 40 acres, groundwater flow direction is varied beneath the site. The groundwater flow direction overall follows ground surface topography, which generally slopes to the north and northeast. Groundwater contours have been added to Figure 2 for clarification and reference. Groundwater flow direction referenced in Section 10.1 will be corrected to “to the north and northeast”. The draft final SASE will be updated to reference north and northeast for the groundwater flow direction.**

6. Page 22, Section 10.1, Site Location and Background; Bullets.

Please include the items listed in Comment 2 mentioned above to this section.

**Response: Please see Navy responses to RIDEM Comment 2.**

7. Page 23, Section 10.1, Site Location and Background; 1<sup>st</sup> paragraph.

*“In accordance with decisions made by the project team (Worksheet #9), the site has been broken up into Category 1 (CERCLA-regulated) and Category 2 (RIDEM UST Division regulated).”*

Please include a Category 3 for areas jurisdictional under RIDEM’s Site Remediation Regulations, as there are areas of concern that may not necessarily be CERCLA regulated nor UST regulated (i.e. structures with lead paint, mercury switches, etc.).

**Response: There are no identified Category 3 areas for Tank Farm 3.**

8. Page 23, Section 10.1, Site Location and Background; bullets 1-3

*“The Category 1 portions of the Site that have not been adequately characterized with respect to PAHs, metals, dioxins and/or PCBs and require further investigation are:”*

Please add the AOCs listed in Comment 2 above to this SAP.

**Response: Please see Navy responses to RIDEM Comment 2.**

9. Page 24, Structure 227 (Electrical Control House); whole section.

Please refer to Comment 3 mentioned above.

**Response: Please see Navy's response to Comment 3 above.**

10. Page 24, AOC 001 (Former Sand Filter/Burn Chamber); whole section.

In addition to the sand filter/burn chamber, as shown on Figure No. 2, also located within AOC 001 is the "stripper pit" and potential OWS #4. See RIDEM's response to the Navy's comments on the Draft SASE for Tank Farm 3 dated 3/23/11 for additional information. Please include these areas to be investigated in this SAP.

**Response: Please see Navy's responses to RIDEMs Comment 2.**

11. Page 31, Section 10.5, Conceptual Site Model; 2<sup>nd</sup> bullet.

Please add to this section that there could also be potential releases of mercury and lead from electrical equipment and paint.

**Response: Metals from batteries is already mentioned but metals from electrical equipment will be referenced. Potential releases from paint are not part of the CSM.**

12. Page 31, Section 10.5, Conceptual Site Model; 1<sup>st</sup> paragraph.

*"Groundwater is not currently accessible, as there are no water supply wells at the site".*

Groundwater is accessible to receptors if it discharges to Lawton Brook. Please state in the response to comments if groundwater discharges to Lawton Brook and modify this statement accordingly in this SAP, if necessary.

**Response: It is presumed that groundwater discharges to Lawton Brook. The statement has been modified to read: "With the exception of where it discharges into Lawton Brook, groundwater is not currently accessible, as there are no water supply wells at the site."**

13. Page 34, Section 11.2.2, Laboratory Chemical Data; whole section.

Since petroleum products are commingled and were burned on site, please add TPH (GRO and DRO) to the list of target analytes in Worksheets 15a-15c for soil, groundwater and sediment. Please combine the results of the GROs and DROs and compare them to RIDEM's Residential Criteria for TPH and UCLs.

**Response: TPH is not an appropriate analyte for Category 1 areas. Data collected for Category 1 potentially will be used for CERCLA-type risk assessment. Petroleum-related chemicals that may pose human health or ecological risk will be captured by the VOC and PAH analyses.**

14. Page 35, Section 11.2.3, Project Screening Levels; Whole Section.

Pursuant to the FFA and CERCLA, please include RIDEM's Residential Direct Exposure Criteria (RDEC), Leachability Criteria, free product requirements and GA Groundwater Criteria in the determination of PSLs.

**Response: The FFA and CERCLA do not discuss project screening levels (PSLs). PSLs are used in determination of detection limits that the analytical laboratory should achieve and in comparison of analytical data. In Category 1 areas, RIDEM criteria are not used in determining PSLs, but if a CERCLA risk is determined in Category 1 area(s), RIDEM criteria will be considered potential ARARs.**

15. Page 36, Section 11.2.3, Project Screening Levels; 4<sup>th</sup> paragraph.

In this SAP, NDs with values above PSLs will be calculated as being below PSLs. In a screening evaluation, the normal procedure is to simply use the values associated with the ND as the detected concentration. Please modify the report accordingly.

**Response: If a chemical has been previously detected in any medium at the site, or is detected at least at one location during this investigation, then it is more likely to be present at concentrations between the LOD and the PSL than if it has never been detected at the site. Accordingly, the first sentence in the referenced paragraph has been changed to the following:**

**“For the purpose of making the decision identified in Section 11.4, non-detected results with associated values greater than the PSL will be treated as values that are less than the PSL if the chemical was not detected in site media during this investigation or in previous investigations; otherwise, such results will be assigned a value equal to one-half the LOD (or, for dioxins, one half the EDL).”**

16. Page 37, Section 11.3.1, AOC 001 Boundaries; 1<sup>st</sup> paragraph.

This SAP notes that elevated levels of TPH were found adjacent to the former Burn Pit and that soil samples should be collected in the same location for CERCLA contaminants of concern. The proposal is to collect the samples via borings. The structure is buried and as such it will be difficult to collect the samples in the same location and at the appropriate depth using borings. The Department recognizes the value of soil borings, however in this case it would seem appropriate to install a series of test pits. If test pits are not utilized, we reserve the right to require them at a later time should the borings not adequately characterize the area. Please specify in this SAP that the subsurface investigation will continue to the water table, unless the water table is in the bedrock, and then to refusal, and soil samples will be collected from the soil and groundwater interface.

**Response: The SAP is designed so the areas where elevated TPH were found will be re-sampled. The margin of error in attempting to re-sample either from test pits or from borings is similar. In fact due to caving of test pits, borings are often more precise than test pits. Excavation of test pits also allows potential volatile organic compounds (VOCs) in the soil to dissipate. Navy will collect soil samples using soil borings as opposed to test pits because borings allow for the more accurate collection of samples from discrete sample interval and better retention of potential VOCs in the sample collection process.**

17. Page 37, Section 11.3.1, AOC 001 Boundaries; 2<sup>nd</sup> paragraph.

Please be advised that according to the State Remediation Regulations for industrial/commercial use, the surface soil depth should be 0-2 feet. Failure to collect samples from this zone will preclude the placement of an ELUR for industrial and commercial use in the future.

**Response: Navy selected the 0-1 foot interval in accordance with EPA Region I guidance for conducting CERCLA risk assessments. If a CERCLA risk is determined, RIDEM criteria will be considered potential ARARs**

18. Page 37, Section 11.3.1, AOC 001 Boundaries; 3<sup>rd</sup> paragraph.

This SAP calls for the collection of a sediment sample at the end of the discharge pipe for the burn pit. As the true end of the discharge pipe may not be evident due to corrosion and/or

other factors, please include the following provision for the collection of this sediment sample: *“If the end of the discharge pipe is clearly evident, then one sediment sample will be collected at its terminus. If the end of the pipe is corroded, broken, or in such a state that the discharge end is not clearly evident, then samples will be collected at the terminus and the area downgradient of the discharge will be inspected and an additional sample will be collected based upon the results of the inspection.”*

**Response: Areas downgradient of the terminus are already part of the SAP, as shown on Figure 3. Navy will perform a site walk prior to sampling and will invite the RIDEM and the USEPA to attend so the regulatory agencies can concur with sampling locations. The performance of a site walk will be added to Section 14 of the SAP.**

19. Page 37, Section 11.3.1, AOC 001 Boundaries; 3<sup>rd</sup> paragraph.

This SAP calls for the collection of sediment samples along certain intervals of the stream upgradient of the discharge from the burn pit. Please review plans to see if there are any swales from the site and/or swales or discharge lines from the fuel/BSW pipeline. The sediment samples should be collected at the terminus of these structures. As the stream was previously dammed, it is likely that these discharge locations may be in what are now wetlands. Please add appropriate language to this SAP to inspect the wetlands downgradient of these areas for evidence of contamination and a sediment sample should be collected in this area.

**Response: Navy will perform a site walk prior to sampling and will invite the RIDEM and the USEPA to attend so the regulatory agencies can concur with sampling locations. The performance of a site walk will be added to Section 14 of the SAP.**

20. Page 37, Section 11.3.1, AOC 001 Boundaries; 3<sup>rd</sup> paragraph.

This SAP states that SD-01 and SD-02 are upgradient samples. SD-02 would have been exposed to releases from a number of sources including the tanks, the fuel lines, the BS&W line, the sludge disposal area, the landfill area, etc. SD-01 is along the fence line. As the Navy typically kept the fence line area clear, this location may have been exposed to herbicides and/or waste oils. Please remove the statements in this SAP indicating that SD-01 and SD-02 are upgradient or reference stations.

**Response: SD-01 and SD-02 are only upstream/ reference locations with respect to AOC-001. They could have been impacted by other activities. The text has been clarified.**

21. Page 37, Section 11.3.1, AOC 001 Boundaries; 3<sup>rd</sup> paragraph, last sentence.

This SAP calls for the collection of sediment samples at a number of locations in the stream. This SAP specifies that sediment samples will be collected in the 0-6 inch interval. Streams and their associated wetlands are dynamic in nature in that areas which may be at the surface now may be scoured or buried in the future. As well as what has been seen in the other tank farms, contamination was found below the 6-inch depth at the discharge pipe receiving areas. Please include the following language to this section for the collection of the sediment samples: *“The areas will be visually inspected and samples will be collected from areas exhibiting evidence of contamination. If evidence of contamination is not present, samples will be biased towards areas of finer grain material. At all locations, holes will be dug in the 0-2 foot interval and the sediment samples will be collected from the interval which exhibits evidence of contamination; otherwise, the entire 2-ft interval will be sampled. If contamination is evident below the 2-ft depth, then additional samples will be collected.”*

**Response: Sediment sample locations SD-03, SD-04 and SD-05 shown on Figure 3 will be updated to borings. The borings will be advanced to 5 feet bgs or refusal (whichever comes first). These borings will be advanced by hand augers. In addition to the surface sediment sample collected from the 0-6 inch interval, a subsurface sediment sample will be collected from each boring. The depth of the subsurface sediment sample will be based upon visual and olfactory observations and PID screening in order to collect the subsurface sediment from the most contaminated depth, based upon the discretion of the FOL. If evidence of contamination is not present, the deeper samples will be biased towards the finer grained material. These deeper sediment samples will be analyzed for VOCs, PAHs, and metals. The results of the deeper sediment samples will be used for nature and extent delineation, not risk assessment if a risk assessment is necessary. Appropriate sections of the Draft Final SAP have been updated.**

22. Page 37, Section 11.3.1, AOC 001 Boundaries; 4<sup>th</sup> paragraph.

Please install a monitoring well at boring TF3-001-SB-101 and add this monitoring well into this SAP as an additional groundwater sampling location.

**Response: GZ-101 is directly downgradient of the former sand filter and is adequate to characterize potential release from the former sand filter.**

23. Page 38, Section 11.3.3, Building 227; 3<sup>rd</sup> paragraph.

This report notes that the existing monitoring wells will be able to ascertain if there is a release from the Building. Using the groundwater flow directions stated in this SAP and considering that groundwater is in a bedrock aquifer, the cited wells are not in the appropriate position or proximity to detect releases from the site. It is recommended that a monitoring well be installed in the source area. Please modify the report accordingly.

**Response: The proposed groundwater monitoring program was reconsidered. Groundwater flow patterns on dates other than June 1997 were considered. Updated Figure 2 presents groundwater contours. One change to the proposed monitoring program is proposed (in the Building 227 area). Monitoring well GZ-318 will be substituted for well GZ-328, as it is more directly downgradient from Building 227. The Draft Final SAP has been updated to reflect this change. A well in the potential source area is unwarranted as potential releases from this structure would have been old and if contamination has reached the groundwater table would have migrated downgradient of the building.**

24. Page 40, Section 11.4.2, Background Comparisons; whole section.

The background dataset presented in Appendix A is not acceptable for this site. Please note that RIDEM does not accept background comparisons for PAHs. Only concentrations of metals may be compared to background levels. Please remove PAHs and dioxins from this section of the SAP.

**Response: The background dataset from the literature for PAHs and dioxins will not be used at this time to eliminate contaminants. This section of the Draft Final SAP and Appendix A have been amended to reflect this change.**

25. Page 61, Worksheet #16, Project Schedule/Timeline Table.

Please add the following language to this worksheet: *“The regulatory agencies will be provided with a weekly schedule of upcoming field work, a weekly summary of work completed or ongoing, and must provide 48 hours notice for any field work cancellations.”*

**Response: Worksheet #16 does not have to do with communication. Worksheet #6 considers communication and will be amended to satisfy this request. The following row has been added to Worksheet #6:**

Regulatory Agency Interface	Tetra Tech PM	Dabra Seiken	978-474-8400	PM will notify the EPA and RIDEM RPMs at least 48 hours prior to commencement of field activities and 24 hours prior to a change in schedule. PM will provide regulators with weekly field updates via e-mail, including activities performed that week and a schedule of planned activities for the following week. PM will notify regulators via e-mail within 48 hours after receipt of a signed concurrence letter from the Navy RPM to change the scope of work, and prior to execution of the work.
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26. Page 62, Worksheet #17, AOC 001; 2<sup>nd</sup> paragraph.

This SAP proposes collecting two borings along the length of the discharge pipe for the former burn pit. As the pipe is buried it will be difficult to locate the position and the depth of the pipe. Further, this approach will not allow one to ascertain if there were any breaks along the length of the pipe which would have resulted in a release or whether any oil or sludges still remain in the pipe. Please modify this SAP to include the removal of the pipe and the collection of soil samples along its length of the pipe at 40-foot intervals, where contamination is observed, or where pipe appears to be compromised via test pitting operations.

**Response: A video inspection inside the pipe will be added as part of the geophysical investigation. These results will be used to identify areas of potential leaks and the borings along the pipe will be adjusted to sample from areas of potential leaks, if found. This information has been added to Worksheet #17.**

27. Figure No. 3

Figure 3 depicts the BS&W lines as running through the burn pit where it is then joined with the BS&W line from OWS #3. This line then appears to cross the stream. It is not clear to the Department why a BS&W line would continue from the burn chamber to beyond the stream. Please review available plans and explain in the response to comments where this pipe terminates and add an analytical sample to this discharge point

**Response: This line does not cross the stream. Figure 3 has been updated.**

**Prior to 1974, the tank bottoms were pumped to the sand filter. Between 1974 and the mid -1990’s when fueling operations at tank farm 3 ended, the tank bottoms were disposed of at off-site facilities. There is no current discharge of bottom sediment water at the site. Navy will perform a site walk prior to sampling and will invite the RIDEM and the USEPA to attend so the regulatory agencies can concur with sampling locations. The performance of a site walk will be added to Section 14 of the SAP.**