

N62661.AR.002420
NS NEWPORT
5090.3a

LETTER AND U S NAVY RESPONSE TO U S EPA REGION I AND RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL PROTECTION COMMENTS REGARDING DRAFT
SAMPLING AND ANALYSIS PLAN FOR TANK FARM 1 ETHYL BLENDING PLANT NS
NEWPORT RI
07/28/2011
TETRA TECH NUS



TETRA TECH

C-NAVY-07-11-4506

July 28, 2011

Project Number 112G02574

Ms. Kymberlee Keckler
U.S. EPA Region I
5 Post Office Square, Suite 100
Mail Code OSRR07-3
Boston MA, 02109-3912

Ms. Pamela Crump
Rhode Island Department of Environmental Management
235 Promenade St.
Providence RI 02908-5767

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order No. WE52

Subject: Transmittal of Response to Comments, Draft Sampling and Analysis Plan
Ethyl Blending Plant, Tank Farm 1
Naval Station Newport, Newport RI

Dear Ms. Keckler, Ms. Crump:

On behalf of Mr. Roberto Pagtalunan, U.S. Navy NAVFAC, I am providing to you enclosed a response to your comments on the Draft Sampling and Analysis Plan (SAP) for the site referenced above. Comments were received from USEPA dated June 3, 2011 and from RIDEM dated June 6, 2011.

If necessary, a technical conference call can be scheduled to discuss any outstanding comments. These responses to comments will be incorporated into the Draft Final SAP which will be issued following any technical discussion of the comments.

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

Very truly yours,

Thomas A. Campbell
Project Manager

TAC/lh

encl.

c: R. Pagtalunan, NAVFAC Mid-Atlantic (w/encl.)
D. Dorocz, NAVSTA (w/encl.)
P. Steinberg, Mabbett & Associates (w/encl.)
S. Parker TtNUS (w/encl.)
G. Glenn, TtNUS (w/o encl.)
AR c/o G. Wagner, TtNUS (w/encl.)
File G02574-3.2 (w/o encl.) File G02574-8.0 (w/encl.)

**NAVY RESPONSES TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
COMMENTS DATED JUNE 3 2011
SAMPLING AND ANALYSIS PLAN FOR THE DATA GAPS ASSESSMENT
ETHYL BLENDING PLANT, SITE 07, TANK FARM 1 (APRIL 2011)**

General Comments:

The Navy has selected only the ethyl blending plant as a Category 1 area at Tank Farm 1. As has been the practice at other tank farms, the Navy typically stored and maintained batteries at its local electrical substations/control buildings. Lead is a CERCLA contaminant and could be present at a electrical substations/control building. Please clarify if such a building exists at Tank Farm 1 and if it does, include it in this investigation. EPA notes that an electrical substation exists immediately south of the southern boundary of Tank Farm 1. If this building serviced Tank Farm 1, please include it within the scope of the Tank Farm 1 investigation.

Groundwater at this site and particularly at the points of interest for this SAP is within the bedrock. Groundwater is likely to migrate via bedrock fractures and therefore, it is not apparent that the existing or proposed groundwater monitoring wells would capture contamination migrating in the groundwater. 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.

Please supplement this SAP with information confirming the groundwater contours/groundwater flow direction at Tank Farm 1 and specifically in the vicinity of the ethyl blending plant.

Local groundwater flow directions are likely influenced by the continuous operation of the tank ring drains. Tank 17 is located less than 200 feet north of the ethyl blending plant and may affect the groundwater flow direction near the plant. This should be considered and possibly evaluated when selecting groundwater monitoring locations for this SAP.

Response:

- A review of the infrastructure present at Tank Farm 1 has not found evidence of the presence of an electric substation within the Tank Farm 1 boundary. There is an active electric substation present to the south of Tank Farm 1. NAVSTA Newport has indicated that this active facility does not service the Tank Farm 1 area.
- The comment suggests that groundwater at Tank Farm 1 is likely to be present in bedrock. It is acknowledged that this possibility is a likely scenario. Regardless, Tetra Tech will plan for the contingency to install bedrock groundwater monitoring wells at the proposed sample locations. Because this is the first effort to investigate groundwater at the Ethyl Blending Plant, the sampling proposal to investigate groundwater is appropriate for an initial investigation. Soil data in conjunction with groundwater data will be evaluated and a determination will be made if additional groundwater investigation is necessary.
- A groundwater contour map included in the Tetra Tech EC 2009 groundwater monitoring round will be included with this response to comments document. Groundwater contours are likely to include any influences on groundwater flow from the ring drains.

Specific Comments:

Comment 1: p. 9, Worksheet 2: Please add the scoping session from February 3, 2011 to the list in paragraph 4 (see page 20).

Response: The suggested change will be made to the SAP.

Comment 2: p. 18, Worksheet 9: Regarding the comments for the November 17, 2010 scoping session, please determine if utilities are active because if they are not, sampling at the transformers should be

included in this sampling plan. EPA notes that the Site has reportedly been inactive since the termination of DESC operations in the early 1990s so it is not clear why the utilities would be active or why this site should be considered active.

Response: Recent site activities conducted by Shaw have determined that there are several active utility lines at Tank Farm 1. These include several underground and pole-mounted electric lines. Transformers will not be included in the sampling plan due to the active status of utilities at Tank Farm 1. A report generated by Shaw documenting their PCB soil sampling in the vicinity of Tank Farm 1 transformers will be included with this response to comments document.

Comment 3: p. 19, Worksheet 9: The projected date of sampling should be July 2011.

Response: The suggested change will be made to the SAP.

Comment 4: p. 20, Worksheet 9: The projected date of sampling should be July 2011.

Response: The suggested change will be made to the SAP.

Comment 5: p. 22, §10.3: Please supplement the second paragraph to indicate that the groundwater elevation in the wells surrounding the ethyl blending plant is beneath the bedrock surface. This is an important consideration in selecting or placing monitoring wells for the ethyl blending plant.

Response: Monitoring well GT-124 is located downgradient of the ethyl blending plant. The boring log for GT-124 shows the placement of the screen in bedrock. Monitoring wells located in the vicinity of Tank 17, located downgradient of the ethyl blending plant are screened in bedrock. No monitoring wells are located in the immediate vicinity of the ethyl blending plant therefore the location of the groundwater table is unknown. Section 10.3 will be revised to indicate that the groundwater aquifer is located in bedrock in monitoring wells located downgradient of the ethyl blending plant:

Comment 6: p. 28, §11.2.1: For ease of reference, please supplement the text in the third bullet to indicate that NGVD 1929 will be used for vertical measurements. Please confirm that the horizontal and vertical datums proposed are consistent with those previously used at the site.

Response: The suggested change will be made by indicating that NGVD 1929 will be the vertical control datum. The horizontal and vertical datums used by Shaw Environmental are consistent with those used by Tetra Tech at this site.

Comment 7: p. 29, §11.2.3: Regarding the third bullet, because EPA considers the top twelve inches surface soil, please clarify that shallow subsurface soil is accessible to some terrestrial receptors.

Response: The suggested change will be made to indicate that the 0 to 1 foot interval is accessible to terrestrial receptors.

Comment 8: p. 30, §11.2.3: The first 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 preferably be treated as exceedances or as data gaps. Please edit the document accordingly.

Response: In situations where the LOD is greater than the PAL and the analyte is not detected, it is typical to treat the result as a non-detect, and identify it as an uncertainty in the data set. Most uses of the data involve calculation of half the U-value and using that value in statistical evaluations of the data, but these data points are still counted as non-detects. This is common practice within CERCLA-based programs; however, it will be clarified in the cited paragraph.

Comment 9: p. 31, §11.4.1: *There are no background data for VOCs and EPA does not accept the use of literature background values for PAHs to screen out contaminants at this stage. Please rewrite this section.*

Response: Section 11.4.1 will be revised to remove the reference to the background study. Analytical concentrations will be compared to the associated groundwater, and soil PSLs.

Comment 10: p. 31, §11.4.2: *No site-specific background data are available for PAHs for the site and it is not appropriate to eliminate contaminants 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 actions including a background study would be appropriate.*

Response: Section 11.4.2 will be deleted from the Ethyl Blending Plant SAP. As suggested in the comment, background concentrations may be potentially relevant to future discussions regarding further action at the Category 1 AOC.

Comment 11: p. 34, Worksheet 13: *Please delete the second reference in this worksheet by Bradley, Magee, and Allen because literature values are not appropriate for screening contaminants.*

Response: The reference to the Bradley et al study will be deleted.

Comment 12: p. 46, Worksheet 15b: *Please clarify why DBCP will not be analyzed by Method SW 846 8011 (similar to EDB). Since EDB is going to be analyzed by Method 8011, it makes sense to also analyze for DBCP. Method 8011 will also have a significantly lower reporting limit for DBCP than 8260B.*

Response: Agreed. Worksheet 15b and other appropriate worksheets will be revised to specify the analysis of both EDB and DBCP by method 8011 for the water samples.

Comment 13: p. 50, Worksheet 15b: *The analytical Methods listed refer to 7471B, but the reference should be 7470A for groundwater.*

Response: The method will be corrected to 7470A in Worksheet 15b.

Comment 1: p. 50, Worksheet #15b: *The PSLs for arsenic and chromium are almost 50 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 and the EPA tapwater RSLs. 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 14: p. 53, Worksheet 17: *The second paragraph states that existing wells GZ-101 and GT-124 will be sampled for this SAP. Please note that GT-124 has consistently been dry when sampled and GZ-101 has occasionally been dry (both were dry when Shaw sampled in 2010). Therefore, please include a contingency plan to get additional groundwater data should one or both of these wells be dry.*

Response: It will be assumed that existing monitoring wells GZ-101 and GT-124 will need to be replaced. Text will be added to the Worksheet #17 stating that existing well will be replaced if it is determined that a groundwater sample is unattainable.

Comment 15: p. 54, Worksheet 17: *The second paragraph discusses the collection of soil samples stating that the second interval sampled will be directly above the water table. Please clarify the intent if the water*

table is beneath the bedrock surface, as it appears it is near the ethyl blending plant.

Response: The location of the water table in the vicinity of the Ethyl Blending Plant is unknown. Drilling activities will document the location of the groundwater table. If groundwater is determined to exist in bedrock, the second soil sample interval will be collected directly above bedrock.

Comment 16: p. 56, Table 17-1:

a) *Because the site groundwater is in bedrock near the ethyl blending plant, the usefulness of the groundwater monitoring wells identified in this table and in Figures 3 and 5 for capturing contamination migrating from the ethyl blending plant is questionable because fractures will likely determine the groundwater flow direction. Please re-evaluate the plan for collecting relevant groundwater samples.*

Response: Groundwater samples have not historically been collected in the vicinity of the Ethyl Blending Plant. Tetra Tech proposes to install two monitoring wells to begin the characterization of groundwater in this location. This approach is appropriate considering this is an initial groundwater investigation.

b) *Please do not change the name for the two existing groundwater monitoring wells. Presumably the determination of geological conditions for the existing wells will be based on the boring logs prepared when the wells were first installed.*

Response: Tetra Tech uses a sample naming convention to facilitate the incorporation of site data into a database. The AOC identifier "EBP" is used to indicate that these samples were collected from the Ethyl Blending Plant site. The original name of the well is retained in the sample name. The original boring logs for GT-124 will be used to determine geologic conditions. The boring log for GZ-101 could not be located in the file review.

Comment 17: p. 57, Worksheet 18:

a) *Two of the four wells listed in this Worksheet are existing, so no soil samples will be collected from them unless the Navy is proposing to install new borings adjacent to these existing wells. Please clarify.*

Response: Soil samples for the existing well locations were added as a contingency in the event these wells would have to be replaced.

b) *The names for the two existing groundwater monitoring wells should not be changed.*

Response: See response to comment 16b.

Comment 18: p. 58, Worksheet 19: *This Worksheet lists SOP CA-391 for water analysis for EDB, but Worksheet 23 and Worksheet 28a list SOP CA-319. Please correct.*

Response: SOP CA-319 is correct. Worksheet 19 will be revised to list CA-319.

Comment 19: p. 59, Worksheet 20:

a) *Please correct the number of soil samples included in this table.*

Response: The number of soil samples includes the contingency that existing monitoring wells will have to be replaced. A footnote will be added to the table to clarify this assumption.

b) *Please clarify Note 4 that calls for shipping one trip blank per cooler. Because VOCs and EDB will be analyzed by separate methods for groundwater samples, clarify whether the Navy intends to provide separate trip blanks for VOC and EDB analysis as implied by this table.*

Response: The footnote will be revised to read "In each cooler containing volatile samples, ship one trip blank per volatile analytical group." In addition, Worksheet 12 will be revised to add trip blanks for aqueous EDB and DBCP analysis

Comment 20: p. 62, Worksheet 23: Worksheet 19 lists CA-204 for PAH/SVOC analysis for soil and water, but that SOP is not listed in Worksheet 23 or 28c. The later two list CA-226 which is not included in Worksheet 19. Please correct.

Response: CA-204 is incorrect. The laboratory uses SOP CA-226 for 8270D full scan analysis (SVOCs) and SOP CA-213 for 8270D SIM analysis (PAHs). Worksheets 19, 24, and 28 will be revised to list the correct SOPs for PAHs and SVOCs.

Comment 21: p. 73: Rinsate Blanks (second bullet): Is there a "1" missing at the end of the example (i.e., TF1-W-RB01-0811)?

Response: The text will be revised to add a "1" to the end of the example.

Comment 22: p. 83, Worksheet #28f: 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.

Response: The MPC will be revised to be the same as the Method Acceptance Limits.

Comment 23: p. 88, Worksheet 30:

a) Please delete Method 6010C from this table because it is not being used according to Worksheets 19 and 28f.

Response: Method 6010C will be deleted from Worksheet 30.

b) Please clarify for SVOCs/PAHs that both full scan and SIM will be run.

Response: The analytical method will be revised to "SW-846 8270D/8270D SIM".

Comment 24: p. 96, Worksheet 36: Please delete Method 6010C from this table for metals because it is not being used according to Worksheets 19 and 28f.

Response: Method 6010C will be deleted from Worksheet 36.

Comment 25: Figure 4:

a) This figure includes an infiltration pathway to overburden groundwater, but near the ethyl blending plant and over much of Tank Farm 1, the groundwater table is beneath the bedrock surface. At a minimum, add bedrock groundwater to this figure and clarify that overburden groundwater may not exist near the ethyl blending plant.

Response: Figure 4 will be edited to reflect that groundwater may be present in either overburden or bedrock.

b) Please correct or clarify the bulleted list of exposure pathways and receptors on the right side of the figure. The exposure identified for the Onsite Construction Worker includes groundwater but this receptor is listed under Soil not Groundwater/Soil.

Response: Figure 4 will be edited so the OnSite Construction Worker appears below the GW SOIL potential exposure pathways.

Comment 26: Figure 5:

a) Please supplement the sampling plan with at least four additional borings immediately adjacent to the four sides of the ethyl blending building.

Response: The sample locations are based on a 15 foot by 15 foot grid system. Seven locations are adjacent to the ethyl blending plant building (SB1010 through SB1012, SB1016, SB1019, SB1021, and SB1022). Locations can be adjusted during a field verification trip.

b) The established grid for sampling proposes very few samples within the limits of the AOCs. This is not acceptable. Most of the samples should be collected within the boundaries of the AOCs, to document the presence or absence of contamination, with some additional samples located around the perimeters to attempt to characterize the extent of contamination. Please revise the sampling plan to better characterize the AOCs.

Response: The photo interpretation of the AOCs associated with the Ethyl Blending Plant reviewed aerial photos from 1951, 1954, 1962, and 1972. This report is included in Appendix A-2 of the SAP. The size and dimensions of AOCs 4, 5, and 18 differed slightly in different years. Therefore, a grid system was incorporated to place sample locations. Figure 5 is based on the 1962 aerial photograph. Navy believes that samples are properly positioned to characterize the AOCs. Figure 5 has been revised to include the AOC polygons from each year and will be included with this response to comments document.

Comment 27: Appendix A-4: This appendix suggests literature-based background concentrations for PAHs in soil for use at Tank Farm 1. The proposed values for PAHs are based on samples collected from urban areas much larger and more densely populated than that at Tank Farm 1. 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 1×10^{-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 a background study, would be appropriate.

Response: Appendix A-4 will be removed from the SAP. As suggested in the comment, background concentrations may be potentially relevant to future discussions regarding further action at the Category 1 AOC.

Comment 28: Appendix D:

a) Please correct references in the field forms to ensure that they refer to Tank Farm 1.

Response: The field forms in Appendix D will be edited to refer to Tank Farm 1.

b) GRO, ExTPH, and dioxins are not analytes of concern for this SAP. Please correct the forms in this appendix to refer to the correct analytes.

Response: The field forms in Appendix D will be edited to include VOCs, SVOCs/PAHs, and metals in the analysis sections of the groundwater and soil sample log sheets.

c) Please change references from 4°C to 6°C on the forms.

Response: Temperature references in the field log sheets will be changed from 4°C to less than or equal to (\leq) 6°C

Comment 29: Appendix E, p. L-2-2:

a) The discussion in the second full paragraph is ambiguous and needs 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 clarify that, in addition to the two fixed intervals that will be

sampled, the third sample interval will be selected based on the initial PID screening results and/or visual and olfactory observations. Each jar headspace sample needs to be collected as close as possible to the portion of the sample interval collected for lab analysis. Multiple VOC samples will initially be collected, one from each soil interval collected between the top and bottom intervals and the VOC sample selected for laboratory analysis will be determined after all the soil intervals have been evaluated.

Response: The text in Appendix E, p. L-2-2 will be revised to add detail on the sample collection procedure for VOCs.

b) *The second last sentence in the second full paragraph refers to TEL analysis. Should this be deleted?*

Response: The reference to TEL will be deleted.

c) *Please change the reference in the third full paragraph to 6°C which is the value used throughout the rest of the SAP.*

Response: The text will be edited to change 4°C to $\leq 6^{\circ}\text{C}$.

**NAVY RESPONSES TO RHODE ISLAND DEPARTMENT
OF ENVIRONMENTAL MANAGEMENT (RIDEM)
COMMENTS DATED JUNE 6 2011
SAMPLING AND ANALYSIS PLAN FOR THE DATA GAPS ASSESSMENT
ETHYL BLENDING PLANT, SITE 07, TANK FARM 1 (APRIL 2011)**

Specific Comments:

Comment 1: Page 4, Executive Summary; 2nd paragraph, 1st sentence:

"...the USEPA as primary authority over the investigation and remediation."

Pursuant to the signed FFA by the Navy, USEPA, and RIDEM, the USEPA and RIDEM have equal regulatory authority. Please delete the above sentence from the document and add RIDEM to the document where necessary.

Response: The text "...the USEPA as primary authority over the investigation and remediation." will be deleted from Page 4 of the Executive Summary.

Comment 2: Page 4, Executive Summary; 2nd paragraph, 2nd sentence:

"To date, the only area in Tank Farm 1 identified for further investigation as a Category 1 area are the AOCs associated with the former Ethyl Blending Plant due to suspected releases of hazardous materials."

According to the 1983 Initial Assessment Study, tank bottom sludge from each tank was placed in a pit approximately 20 feet long, 10 feet wide, and 4 feet deep, which was dug in the general vicinity of the tank being cleaned. These areas were marked with signs warning of tetraethyl lead contamination. These areas must be included as Category 1 AOCs under CERCLA. Also, the following areas exist on Tank Farm 1 which may contain CERCLA contaminants: an inactive fuel loading area (northeast portion); a former gasoline/water separator (west side); an oil/water separator located in the central portion of the site; and two transformer vaults.

Response:

1. Tank bottom sludge, disposed of in pits

Suspected sludge pits at Tank Farm 1 have been previously investigated. In 1992, TRC identified 5 potential sludge pits using historic aerial photographs which were subsequently sampled by Groundwater Technology. Analytical results are summarized in Appendix A-1 Table A-4 and pages 11 and 12 of the Tetra Tech 2010 Technical Memorandum. Soil and groundwater were analyzed for VOCs, SVOCs, Lead, TPH, Gasoline, and TVPH. The associated monitoring well with these areas, GZ-106, was gauged for the presence of NAPL, which was not detected.

In 2006 TtEC also used historic aerial photographs to identify potential sludge pits, among other areas, for investigation. In 2010 Shaw conducted an investigation of these areas which described in Summary Report included in Appendix A-3 of the Ethyl Blending Plant SAP. In addition, analytical results from this investigation are summarized in Appendix A-1 Table A-1 of the Ethyl Blending Plant SAP. Shaw screened soil samples with Petroflag™ test kits and, based on TPH concentration detected, subsequently analyzed samples for DRO, GRO, VOCs and/or SVOCs. Some areas were flagged by Shaw based on exceedances, although these areas are not necessarily located in suspected sludge pits. Further action at these areas is pending the completion of Shaw's investigation.

Sludge pits have been historically described as being '...dug in the general vicinity of the tank being cleaned'. Tetra Tech considered samples collected near the tanks, although potentially not specified as being collected to evaluate potential sludge pits, in the evaluation of suspected sludge pits at Tank Farm

1. Information regarding sampling adjacent to the tanks can be found in the tables in the Ethyl Blending Plant Appendix A-1 (Tetra Tech Technical Memorandum) and A-3 (Shaw Summary Report). Further action at these areas is pending the completion of Shaw's investigation

2. Inactive fuel loading area (northeast portion)

Analytical results from samples collected in the inactive fuel loading area are summarized in the Ethyl Blending Plant SAP, Appendix A-1, Table A-13 and the Tech Memo on page 16 (also found in Appendix A-1). Several rounds of sampling have been conducted in this areas beginning in 1994, with the most recent sampling occurring in 2010. Collectively, only one exceedence was detected in groundwater in 1994 for benzene. No exceedances of applicable standards have been detected since that time and LNAPL has not been detected in this area. See Table A-13 for a complete list of analytes, which includes VOCs, SVOCs, DRO, GRO, Lead, TPH and TVPH. This area has been investigated and results have shown no contamination above exceedances

3. Former gasoline/water separator (west side); oil/water separator (central)

A summary table of investigations conducted at the gasoline/water and oil/water separators is presented below. This investigation is described in the 2010 Shaw Summary Report. Investigations in these areas has shown none or limited contamination, which is why no further investigations are not recommended.

Sample Location / Identification	Analysis	Result
TF1-T13-OWS-S / TF1-T13-OWS-S (2.5'), TF1-T13-OWS-S (5')	Petroflag™ screening	No further action
TF1-T13-OWS-W / TF1-T13-OWS-W (2.5'), TF1-T13-OWS-W (5')	Petroflag™ screening	No further action
TF1-T13-OWS PIPE / TF1-T13 OWS PIPE 1 (2.5'), TF1-T13 OWS PIPE 2 (5'), TF1-T13 OWS PIPE 3 (5.5'), TF1-T13 OWS PIPE 4 (8'), TF1-T13 OWS PIPE 5 (9.5')	Petroflag™ screening, TPH, Gasoline	No further action
TF1-T13-OWS-NW / TF1-T13 OWS-NW1 (3'), TF1-T13 OWS-NW2 (5')	Petroflag™ screening, TPH, Gasoline	No further action
TF1-T13-OWS-NW RE-EX / TF1-Tank 14 (5'), TF1-Tank 14 (10'), TF1-Tank 14 (15'), TF1-Tank 14 (20')	Petroflag™ screening	No further action
TF1-Suspected OWS-E / TF1-Suspected OWS-E (2.5'), TF1-Suspected OWS-E (5')	Petroflag™ screening	No further action
TF1-Suspected OWS-W / TF1-Suspected OWS-W (2.5'), TF1-Suspected OWS-W (5')	Petroflag™ screening	No further action

4. Two transformer vaults

Shaw collected soil samples adjacent to the Tank Farm 1 transformers. The results presented in the Tetra Tech Technical Memorandum (Appendix A-1). Although PCBs were detected at one location above applicable standards, Navy is not conducting additional investigations because the transformers are part of the functioning infrastructure at Tank Farm 1.

Comment 3: Page 4, Executive Summary; 3rd paragraph, 2nd sentence:

"This analyte list covers potential constituents of ethyl fluid..."

Please add TPH and tetraethyl lead (TEL) to the analyte list in the above sentence and throughout the document since the ethyl fluid mainly consisted of TEL, was blended with the aviation fuel, and kerosene was used as a cleaning agent for any spills associated with the blending operations.

Response: Navy has not included tetraethyl lead (TEL) in the analyst list because the constituents of the ethyl fluid will be detected in the selected analysis (VOCs, SVOCs, and metals). In addition, there are no analytical laboratories that are ELAP certified for TEL analysis, which is a Navy requirement when procuring analytical services. Navy believes that lead analytical results can be used as a marker or indicator for the presence of TEL. Since this site is a Category I site, petroleum hydrocarbon analysis is not being conducted. Navy believes that the inclusion of kerosene constituents, such as BTEX compounds and naphthalene and paraffins will be sufficient to determine if a release occurred.

Comment 4: Page 4, Executive Summary; 3rd paragraph, 3rd sentence:

"Soil samples will be collected using a soil drilling or direct-push methods..."

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.

Response: Navy prefers to collect soil samples using soil borings as opposed to test pitting. Soil boring allow for the more accurate collection of samples from discrete sample interval and better retention of any potential volatile organic compounds in the sample collection process.

Comment 5: Page 4, Executive Summary; 3rd paragraph, 3rd sentence:

"...at depths of 0 to 1 feet and 2 subsurface soil interval."

Please be advised that according to the State Site Remediation Regulations 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 human health risk assessments.

Comment 6: Page 13, SAP Worksheet #6, Communication Pathways: *Please state in this table that any change to the SAP will be submitted to the regulatory agencies for approval before the work is executed.*

Response: The intent of Worksheet #6 is to describe the communication pathways between Tetra Tech and Navy. Any changes to the SAP will be submitted to the regulatory agencies for approval as a new revision to the SAP before the work is executed.

Comment 7: Page 21, Section 10.2, Site History; 1st paragraph: *Please provide a copy of the engineering report dated 1943 to RIDEM in the response to comments.*

Response: A copy of the 1943 engineering report will be provided to RIDEM.

Comment 8: Page 21, Section 10.2, Site History; 2nd paragraph, last sentence.

"If any spillage of ethyl fluid occurred, the spill was washed with kerosene and then sluiced with water. The destination of the wash is unknown"

It would seem prudent from the above statement to include investigations near outside door ways, dry well, sumps, floor drains, and any discharge pipes from the building. Please add these investigations to this document, or clear justification as to why they are not warranted.

Response: The sample locations are based on a 15 foot by 15 foot grid system. Eight locations are adjacent to the ethyl blending plant building (SB1008 – SB1010, SB1013, SB1014, and SB1017 through SB1019). Locations can be adjusted during a field verification trip. There is no specific information on the building construction regarding dry wells, floor drains, and discharge pipes from the building.

Comment 9: Page 23, Section 10.4.1 Monitoring well installation and groundwater sampling; whole section: *Please add language to this section that free product has been observed in the onsite wells.*

Response: It should be noted that free product was not detected in groundwater monitoring wells associated with the Ethyl Blending Plant. The text will be edited to indicate that free product was detected in monitoring wells associated with Tanks 16 and 17.

Comment 10: Page 23, Section 10.4.2 Soil Testing; 1st paragraph, 2nd sentence.

“The work by Shaw focused on removing residual petroleum..”

Please remove the word “removing” from the sentence in the document due to the fact that Shaw, to our knowledge to this point, has not removed any residual petroleum contamination even though it has been found onsite.

Response: The text will be edited to “investigating residual petroleum..”

Comment 11: Page 30, Section 11.2.3, Project Screening Levels; bullets: *Please include the following in this section, throughout this document, and in Appendix B for the Project Screening Levels: RIDEM Residential Soil Direct Exposure Criteria; Leachability; TPH; and EPA PRGs for tetraethyl lead (human health and ecological); sediment; and surface water PSLs.*

Response: RIDEM criteria are not to be used in determining PSLs, but if a CERCLA risk is determined, RIDEM criteria will be considered potential ARARs. TPH is not included since this is a Category 1 site. It should be noted that TPH constituents will be included in the laboratory analytical list (i.e. BTEX compounds and SVOC constituents). Please see response to comment number 3 regarding the request to add TEL to the proposed analysis list.

Comment 12: Page 29, Section 11.2.3, Project Screening Levels; last paragraph.

“The background dataset for PAHs (see section 11.4.2) will be used to determine whether PAHs present onsite are site-related or not.”

Please note that RIDEM does not accept background comparisons for PAHs. Only concentrations of metals may be compared to background levels. Please delete this sentence and all others in the document that reference this.

Response: The Ethyl Blending Plant SAP will be revised to remove references to the background dataset comparison. Data will be screened against the PSLs discussed in Section 11.2.3

Comment 13: Page 30, Section 11.3.1 Category 1 boundaries; whole section: *Please refer to Comment 2 and 6 mentioned above.*

Response: See responses to comments 2 and 6.

Comment 14: Page 32, Section 11.4.2, Background Comparisons; whole section: Please refer to Comment 13 mentioned above. Also, the background dataset presented in Appendix A-4 is not acceptable for this site.

Response: The Ethyl Blending Plant SAP will be revised to remove references to the background dataset comparison. Data will be screened against the PSLs discussed in Section 11.2.3. See response to comments 2 and 6.

Comment 15: Page 32, Section 11.5, Specify Performance Criteria; 1st paragraph, 2nd sentence:

“The data collected under this SAP are anticipated to be sufficient to achieve these goals and support a risk assessment for the Site.”

Please verify what the “Site” is in the above sentence in the document. If the data collected under this SAP is used to support a risk assessment for the entire Site (Tank Farm 1), all areas of possible contamination of CERCLA contaminants should be investigated, including the sludge pits, oil/water separators, transformers, etc.

Response: The Site is defined as the Ethyl Blending Plant in this SAP. The data to be collected will be used to support the goals of the SAP, which include supporting a risk assessment of the Ethyl Blending Plant.

Comment 16: Pages 40-51, Worksheets 15a-15b, Reference Limits and Evaluation Tables (Soil & Groundwater): As stated in comment #4, please include tetraethyl lead and TPH in these analyte lists.

Response: Please see response to comment 3.

Comment 17: Page 52, SAP Worksheet #16, Project Schedule/Timeline Table: Please add the following language to the 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: The recommended text will be added to the SAP.

Comment 18: Page 53, SAP Worksheet #17, Sampling Design and Rationale; whole section: The rationale and grid on Figure 5 do not appear to catch the known AOC but seem to try to catch the outskirts of the AOCs. For example, the long AOC listed as TF1-004 has no boring inside the known AOC. Please position the soil sampling location both inside and outside the known AOCs.

Response: The photo interpretation of the AOCs associated with the Ethyl Blending Plant reviewed aerial photos from 1951, 1962, and 1972. This report is included in Appendix A-2 of the SAP. The size and dimensions of AOCs 4, 5, and 18 differed slightly in different years. Therefore, a grid system was incorporated to place sample locations. Figure 5 is based on the 1962 aerial photograph. Navy believes that samples are properly positioned to characterize the AOCs. Figure 5 has been revised to include the AOC polygons from each year and will be included with this response to comments document.

Comment 19: Page 54, SAP Worksheet #17, Sampling Design and Rationale; 1st paragraph, 2nd sentence:

“Soil samples will be collected from 3 intervals, one surface interval (0-1 ft bgs)…”

Please refer to Comment 6 mentioned above.

Response: Navy selected the 0 to 1 foot interval in accordance with EPA Region I guidance for conducting human health risk assessments.

Comment 20: Page 54, SAP Worksheet #17, Sampling Design and Rationale; 2nd paragraph, 2nd sentence:

“...one or two soil samples will be collected from each boring.”

It would seem prudent to collect the same number and locations of soil samples from the new monitoring well locations as you are proposing for the soil boring locations (3 soil samples). Please change the above sentence to include the same soil sampling strategy to the monitoring well locations as proposed for the soil borings.

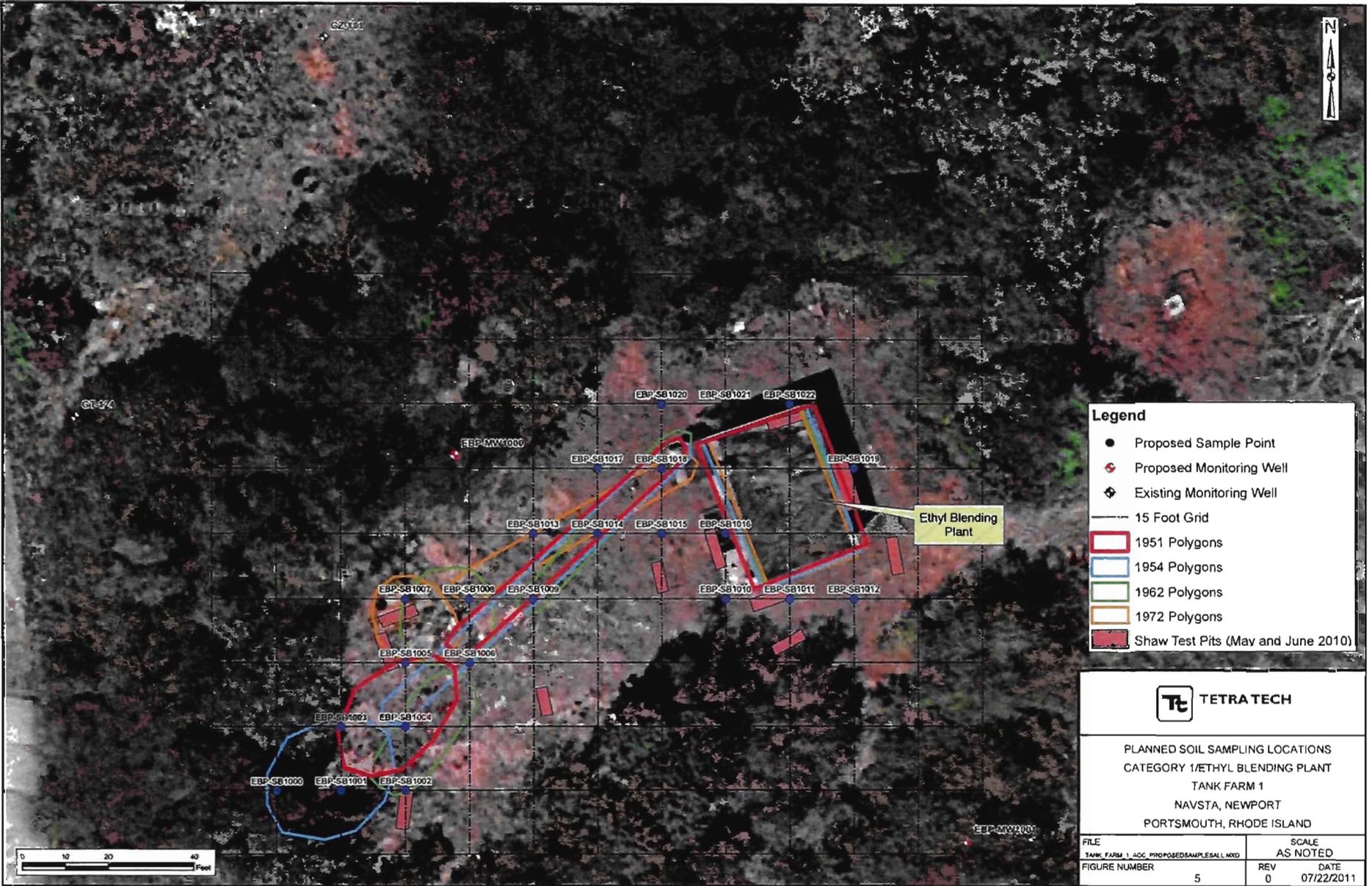
Response: The soil boring locations are designed to collect data in areas where potential releases occurred. Therefore, the three intervals are appropriate to characterize any potential releases. The monitoring well locations are not in areas where releases to the ground surface are suspected. Therefore, the two soil sample intervals are appropriate to a characterize the overburden layer.

Comment 21: Page 54, SAP Worksheet #17, Sampling Design and Rationale; 3rd paragraph: *This section deals with the collection of groundwater samples. Since Tank Farm 1 has a history of known NAPL found at the site, please add the following provisions to the sampling protocol: “The wells will be inspected for NAPLs prior to purging. If NAPLs are present, samples of the NAPL will be collected for analysis of the parameters listed for the groundwater sample. During well development, the intake for the purge pump will be raised through the length of the well screen and the PID readings will be recorded. The intake for the low flow sample will be placed at the interval which exhibits the highest PID reading. If LNAPL is present, the intake will be placed at the top of the water table.”*

Response: Groundwater monitoring wells will be inspected for NAPL prior to sampling. If NAPL is present, a sample will be collected of the product layer.

Comment 22: **Figure 5:** *Please provide Figure 5 on a larger fold out paper with the Shaw test pits labeled on the figure and include any laboratory test results in boxes along with the identified Shaw test pit locations. Please provide this revised Figure 5 in the response to comments.*

Response: The Shaw Summary Report includes sample location maps and analytical results tables. Tetra Tech will draft a table that summarizes the Shaw samples collected in the vicinity of the Ethyl Blending Plant. The table will be included in Worksheet #10 of the Ethyl Blending Plant SAP. Please note that locations are depicted on the Shaw Summary Report Sample Location figure included in Attachment A-3 of the Ethyl Blending Plant SAP.



Legend

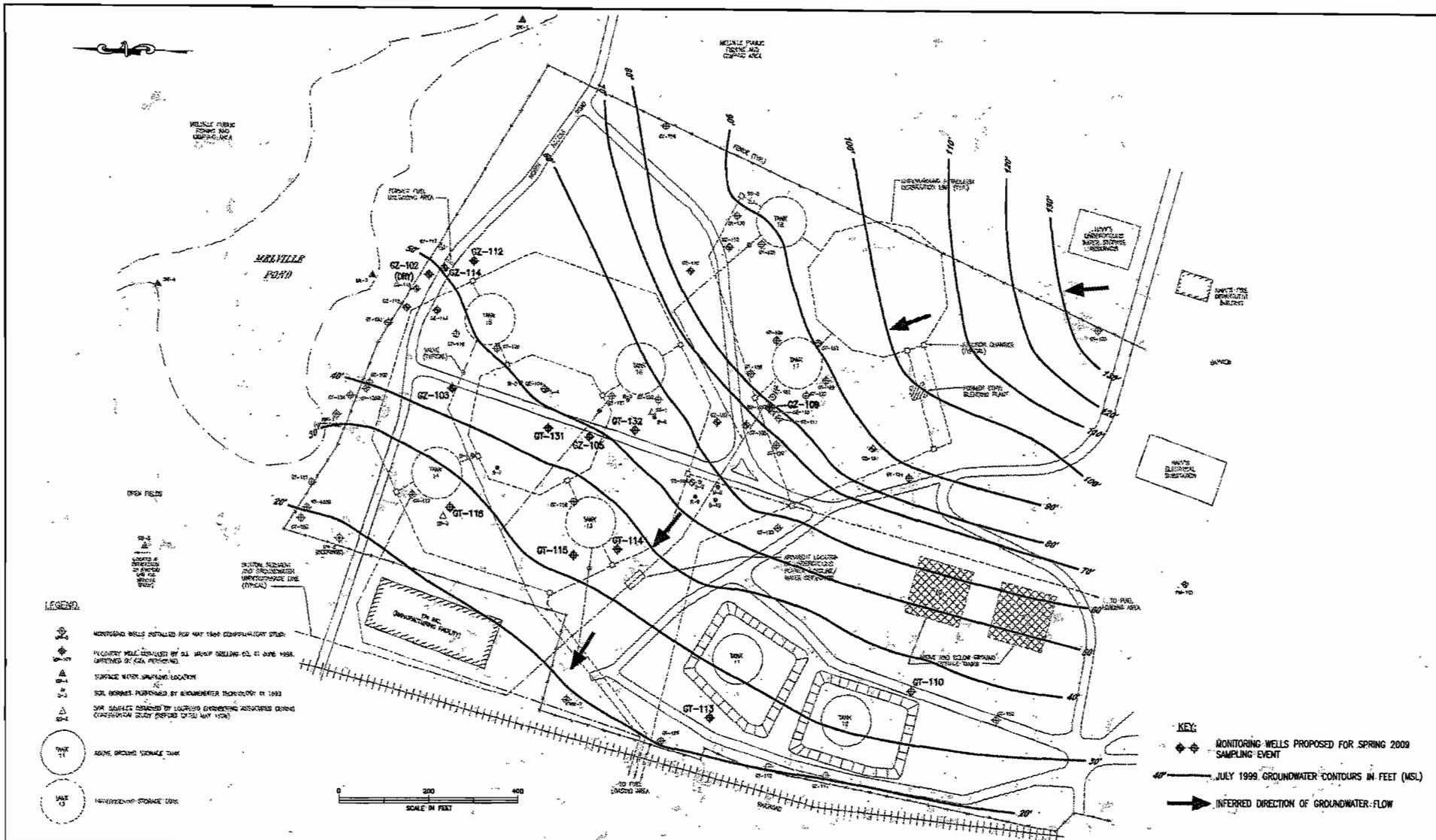
- Proposed Sample Point
- ⊕ Proposed Monitoring Well
- ⊕ Existing Monitoring Well
- 15 Foot Grid
- ▭ 1951 Polygons
- ▭ 1954 Polygons
- ▭ 1962 Polygons
- ▭ 1972 Polygons
- ▭ Shaw Test Pits (May and June 2010)



TETRA TECH

PLANNED SOIL SAMPLING LOCATIONS
 CATEGORY 1/ETHYL BLENDING PLANT
 TANK FARM 1
 NAVSTA, NEWPORT
 PORTSMOUTH, RHODE ISLAND

<small>FILE</small>	<small>SCALE</small>
<small>TANK_FARM_1_ACC_PROPOSED\SAMPLES\BALL.MXD</small>	<small>AS NOTED</small>
<small>FIGURE NUMBER</small>	<small>REV DATE</small>
5	0 07/22/2011



**DEFENSE FUEL SUPPORT POINT MELVILLE
PORTSMOUTH, RHODE ISLAND
SPRING 2009 GROUNDWATER MONITORING EVENT AT TANK
FARM 1**

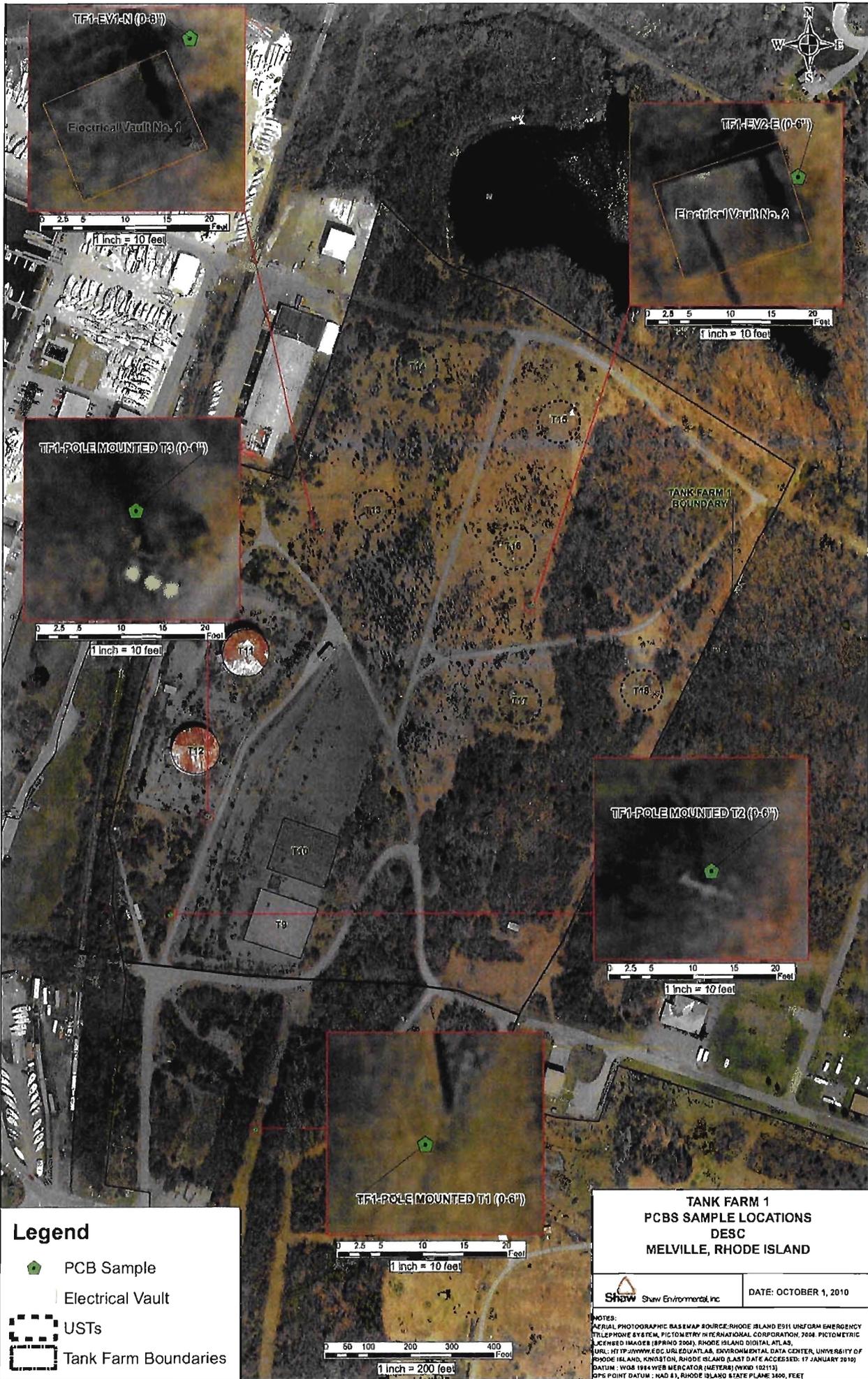
FIGURE 3-1



TETRA TECH EC, INC.

010 FILE: TT-1-1-W CONTOURS-REV 0.DWG

Project Number: 137893 Generated By: RN Date: 10/1/2010 File Path: K:\DESCR\rust\GIS\Workspace\RM\Map_Template\PCB Locations



Legend

-  PCB Sample
-  Electrical Vault
-  USTs
-  Tank Farm Boundaries

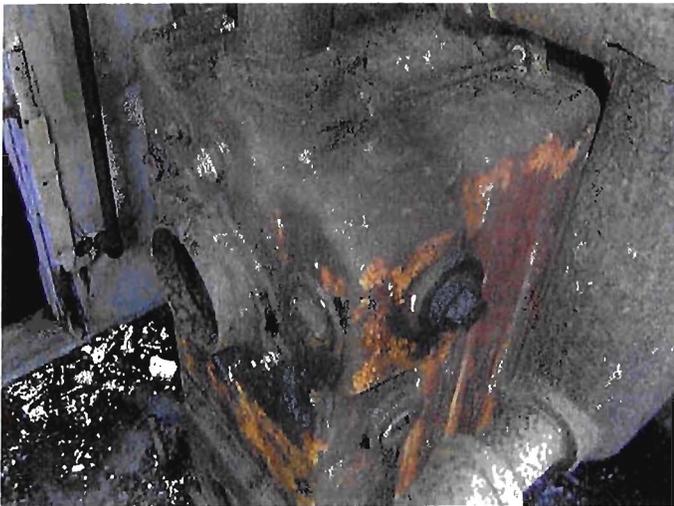
**TANK FARM 1
PCBS SAMPLE LOCATIONS
DESC
MELVILLE, RHODE ISLAND**

 DATE: OCTOBER 1, 2010

NOTES:
AERIAL PHOTOGRAPHIC BASEMAP SOURCE: RHODE ISLAND ESH UNIFORM EMERGENCY TELEPHONE SYSTEM, PICTOMETRY INTERNATIONAL CORPORATION 7054 PICTOMETRIC LICENSED IMAGES (SPRING 2004), RHODE ISLAND DIGITAL ATLAS, URL: HT TP://WWW.EDC.ORG/URL/EDU/ATLAS, ENVIRONMENTAL DATA CENTER, UNIVERSITY OF RHODE ISLAND, KINGSTON, RHODE ISLAND (LAST DATE ACCESSED: 17 JANUARY 2010)
DATUM: NAD 83 UTM MERCATOR (METERS) (WZED 102113)
GPG POINT DATUM: NAD 83, RHODE ISLAND STATE PLANE 3400, FEET



1: Northeast Side of Ethyl Plant
Location At Rear Entrance Door way: N 41° 35' 15.2" W 71° 16' 45.0"

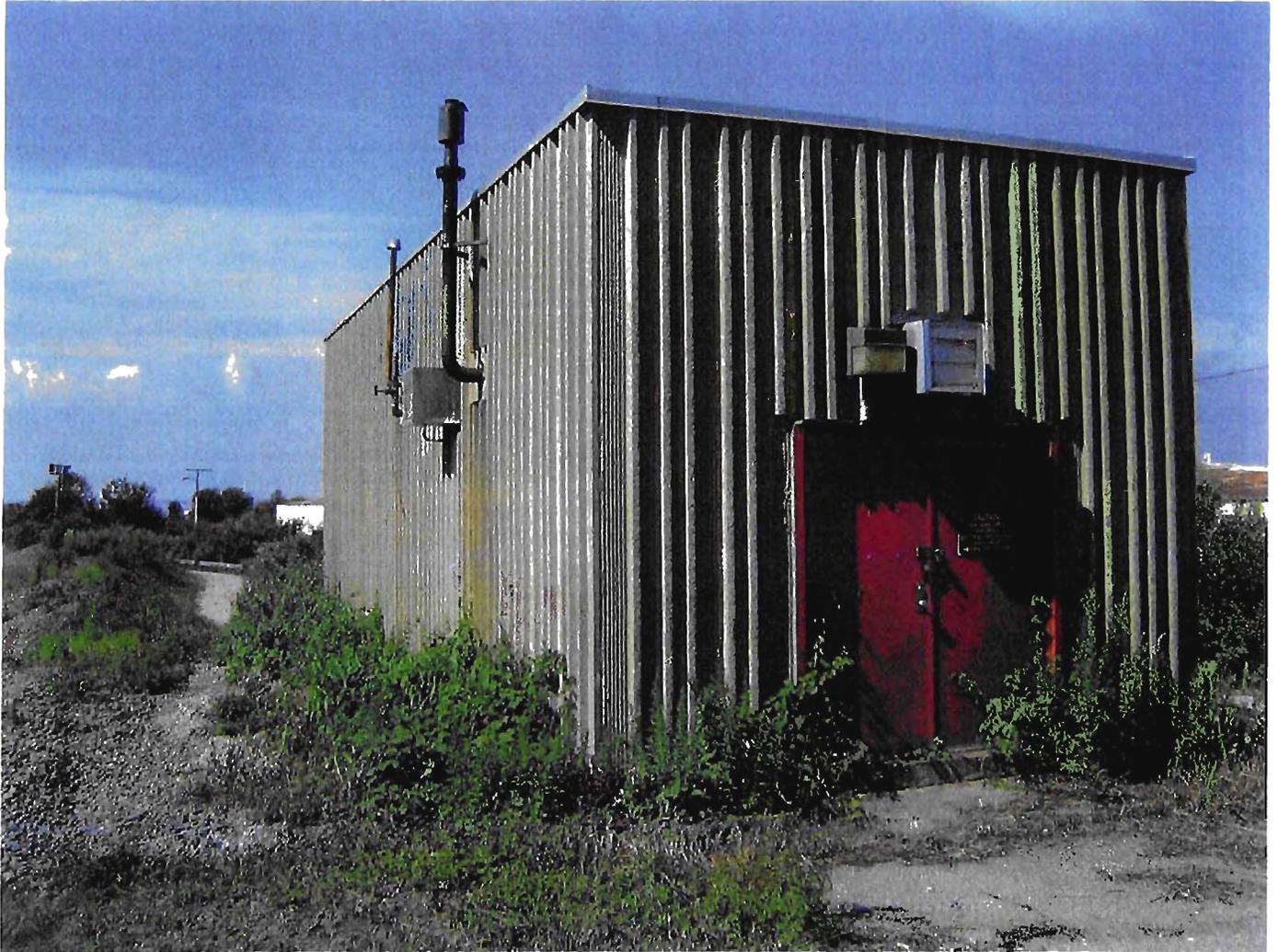


2. Sectional Boiler Unit in Boiler Room



3. PACM Window Glazing Putty Debris on Floor

**ETHYL BLENDING PLANT
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010**



1: North Side Entrance to Fire Suppression Pump House (Locked)
Location At North Entrance Door: N 41° 35' 19.3" W 71° 16' 49.7"



2. Suspect ACM/PCB Door Frame Caulk & LBP



3. Suspect LBP Doors and PACM Wall Penetration Caulk

**FIRE SUPPRESSION PUMP HOUSE
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010**



1: Southeast Corner of Junction Valve House Vault



2. Northeast Side



3. Steel Drum with "Speedi-Dri" on Metal Grate on Pit

**JUNCTION VALVE HOUSE
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010**



1: East Side Entrance to Pump House 30 (Locked)
Location At East Entrance Door: N 41° 35' 13.9" W 71° 16' 52.7"



2. Suspect ACM Felt & Tar on Roof to Entrance



3. Suspect LBP on Nearby Vault Bulkhead Doors

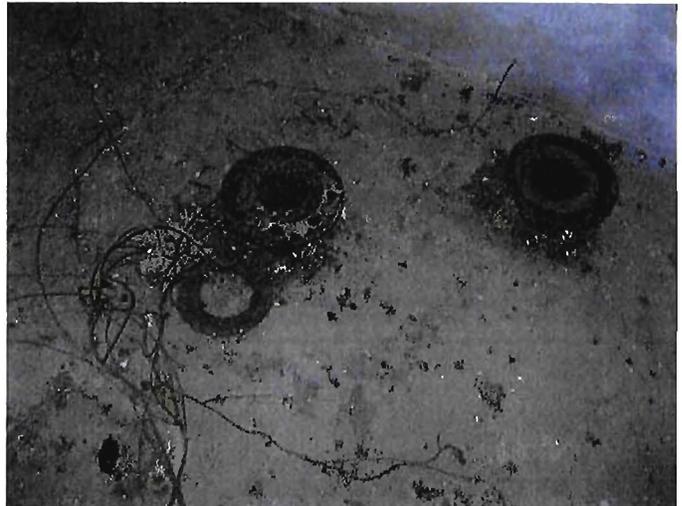
PUMP HOUSE 30
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010



1: South Side of Pump House 49
Location At South Entrance Door way: N 41° 35' 12.5" W 71° 16' 44.3"



2. Upper Level Metal Entrance Doors w/ Suspect LBP



3. Suspect ACM Flange Gaskets Remaining

PUMP HOUSE 49
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010



1: East Side of Pump House 63
Location At Entrance Door way: N 41° 35' 18.2" W 71° 16' 55.2"



2. North Side of Pump House 63 – PACM Roofing



3. Concrete Panels over Vaults

PUMP HOUSE 63
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010



1: Southeast Corner of Tank 11 Valve House
Location At Entrance Door way: N 41° 35' 19.2" W 71° 16' 53.6"



2. Northeast Corner of Valve House



3. Entrance of Valve House Partially on Tank Pad

**TANK 11 VALVE HOUSE
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010**



1: North Side of Tank 12 Valve House
Location At Entrance Door way: N 41° 35' 17.2" W 71° 16' 54.8"



2. Southeast Corner of Valve House



3. South Side of Valve House

**TANK 12 VALVE HOUSE
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010**



1: Northwest Side of Transformer Vault 2
Location At Entrance Door way: N 41° 35' 20.3" W 71° 16' 43.5"



2. Two Transformers on Northeast Side



3. Suspect LBP & PACM caulk on Door/Frame

TRANSFORMER VAULT 2
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010

WALLS	FLOOR	CEILING	PACM & TSI Run / Jnts	PCB / Hg	Misc Contamination / Paint / Comments
Ext. Concrete with Sand Finish	Concrete,	Concrete Roof Deck with PACM asphalt felts, tar and mastics	PACM door frame caulk and wall penetration caulk; PACM Roofing;	Presumed PCB present in caulks; Potential for PCBs in transformer	Presumed LBP on door & frame components; Possible PCBs in soils due to dielectric fluid release from inside transformer; Releases from exterior transformers unknown
Interior Concrete, painted	Concrete,	Concrete Deck	PACM Door frame opening caulking; PACM TSI on ventilation duct; PACM wraps on high voltage connections	PCBs presumed in door frame caulk; locked door, but possible PCBs in Transformer & equipment inside; possible Hg in thermostat for activating ventilation system	Suspect LBPs on door & frame components; Floor drains in building unknown; Unknown contamination on concrete slab and wall due to release of dielectric fluid from transformer; Lead on cable connections

TRANSFORMER VAULT 2
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
 Site Observations on August 10, 2010



4: Suspect PACM Roofing Materials



5: PACM/PPCB Door Frame Caulk & PLBP on Door/Frame



6: Possible PACM Penetration Caulk for Service Conduits

WALLS	FLOOR	CEILING	PACM & TSI Run / Jnts	PCB / Hg	Misc Contamination / Paint / Comments
Ext. Masonry Brick	Concrete, presumed	Concrete Roof Deck;	PACM door frame caulk and wall penetration caulk; PACM Roofing;	Presumed PCB present in caulks; Potential for PCBs in transformer	Presumed LBP on door & frame components
Interior Masonry Brick presumed, locked	Concrete, presumed	Concrete Deck	PACM Door frame opening caulking	PCBs presumed in door frame caulk; locked door, but possible PCBs in Transformer & equipment inside	Suspect LBPs on door & frame components; Floor drains in building unknown; Unknown contamination in soils around building and transformer;

**TRANSFORMER VAULT 3
DEFENSE ENERGY SUPPORT CENTER
DEFENSE FUEL SUPPORT POINT - MELVILLE
NAVAL STATION NEWPORT – NEWPORT, RHODE ISLAND
Site Observations on August 10, 2010**