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CONTRACT NO. N62472-99-D-0032	CONTRACT TASK ORDER NO 0084	ACTIVITY LOCATION Naval Station Newport - Portsmouth, RI
PROJECT TITLE Tank Farm Remediation		
FROM: Foster Wheeler Environmental Corp.: Program QC Manager Thomas Kelly		DATE December 9, 2002
TO: B. Helland (E-Copy)		DATE December 9, 2002

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FOR COMMANDING OFFICER, ENGINEERING FIELD DATE
 ACTIVITY NORTHEAST - NAVAL FACILITIES ENGINEERING
 COMMAND

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS
1	SD-08, Statements; Response to Comments	Helene Ropars			

FOSTER WHEELER ENVIRONMENTAL CORPORATION
U.S. NAVY ENGINEERING FIELD ACTIVITY NORTHEAST
REMEDIAL ACTION CONTRACT (RAC)
CONTRACT NO. N62472-99-D-0032
NAVAL AIR STATION NEWPORT, RHODE ISLAND

ANNOTATED RESPONSES TO REVIEW COMMENTS

The following are responses to RIDEM review comments on the Draft Site Investigation Work Plan for Tank Farm 4 Closure at the Naval Education and Training Center Newport, Rhode Island, dated August 19, 2002. The comments are provided in italic type followed by the Navy's responses in bold type.

Reviewer: RIDEM

Date: October 25, 2002

General Comments

Cover Letter The report should be entitled, *Draft Site Investigation Work Plan for Sludge Disposal Pits, Tank Farm #4.*

Response: The document will be renamed “**Draft Site Investigation Work Plan for Tank Farms 4 and 5**”. In addition to the sludge pits, the work plan will include investigation of areas deemed to be of concern following a search of the Navy files regarding the site.

Comment 1: Please include a section on regulatory notification for field activities. As performed at other sites on the base, the Office of Waste Management must be forwarded a weekly updated schedule of upcoming field activities so that oversight inspections can be scheduled. As field schedules can be dynamic, when possible, the Office of Waste Management should also receive a twenty-four notification for the cancellation of field activities.

Response: A regulatory notification section will be included in the revised Site Investigation Work Plan. This section will describe the manner and frequency of field activity notifications to the Office of Waste Management.

Comment 2. The use of the 500-ppm residential standard requires that VOCs and SVOCs also meet residential standards in accordance with Section 8.01(A)(iv) of the RIDEM Remediation Regulations. Please include this sampling in the work plan.

Response: The plan will be revised to omit the use of the RIDEM UST Method 1 Industrial/Commercial TPH Direct Exposure Criterion for soil of 2,500 ppm. Instead, the UST Method 1 Residential TPH Direct Exposure Criterion of 500 ppm for soil will be used as the criterion. In addition, a portion of the samples found to contain less than 500 ppm TPH will be analyzed for SVOCs and VOCs, as will confirmatory samples.

Comment 3. The Navy has submitted information concerning the other sites on the base in a GIS database. This has greatly facilitated the review of submittals by the Navy, reduced or eliminated the number of comments and or correspondence between the agencies, reduced or eliminated the need for presentations by the Navy and had greatly expedited the overall process. The Office of Waste Management is aware that the Navy wants to

expedite the investigation and remediation of these sites. To that end, the Navy may wish to submit, as was done for the other sites on the base, the sampling information (historic and current) on this site in a GIS format

Response: The Navy will provide to RIDEM historical tank farm data in GIS format, as appropriate, under separate cover. Future tank farm data will be added to the GIS system as appropriate and provided to RIDEM at a future date.

Specific Comments

Comment 4: Section 2.2, Environmental Setting, Page 1. The report states that the top of each tank is 10–30 feet below grade. During the demolition actions conducted at the site the depth of soil varied, (most were reported by Foster Wheeler to be approximately four feet). Please modify the report accordingly.

Response: The plan stated that the USTs may have continued approximately 10-30 ft below the soil surface—not that the top of the tank was 10-30 ft below the soil surface. You are correct that the demolition reports indicated that the overburden depth was approximately 4-ft. The plan will be clarified to avoid any further confusion.

Comment 5: Section 2.4, Previous Investigation, Page 4 This section of the report discusses the results from a Petro Flag field screening exercise around each tank. Please include a scale drawing depicting the location of each test boring.

Response: The Petro Flag screening samples were conducted on soil collected during boring advancement. Therefore, the field screening samples are located in the same location as the soil borings, albeit at various depths within the boring. The revised site investigation report will contain a figure (originally taken from the Halliburton report) that shows the location of the soil borings relative to each UST.

The Halliburton report contains an Appendix D entitled TPH Field Screening Data that includes an interpretation of the field screening and comments. The Navy will consolidate the TPH field screening data into a tabular format and the information will be included in the revised site investigation plan. Using this TPH field screening table and the soil boring figure, RIDEM can then determine the location of the Petro Flag screening samples.

Comment 6. Section 2.4, Previous Investigation, Page 4 This section of the report discusses the results from a Petro Flag field screening exercise around each tank. The report states that soil samples were collected from the four to eight foot intervals. Please indicate why the 0-4 foot interval was not tested.

Response: The Halliburton (June 1995) report indicates that the purpose of the sampling was to assess the impacts of site activities on selected facilities. The facilities included the Tank Farm 4 oil water separator and associated piping as well as shunt piping. Shunt piping was 20-75 ft long and connected individual USTs to the main fuel line or to the oil water separator. At the time of field activities, the shunt piping was estimated to be approximately 5 ft below ground surface (Halliburton, 1995).

Comment 7: Section 2.4, Previous Investigation, Page 4. This section of the report discusses the results from subsurface soil sample collected at depths 30–40 feet below ground surface. Please include a scale figure depicting the location of each boring, the analytical results (TPH results and positive hits for VOCs, SVOCs), and the depth of each sample. This information should also be provided in a table along with other appropriate information such as the absence or presence of free product, petroleum odors, staining, etc.

Response: The Navy will include the consolidated information in a tabular format in the revised plan. The revised plan will include a figure (originally contained in the Halliburton report) that depicts the soil boring locations. The Navy encourages RIDEM to review the Halliburton (June 1995) report because it includes details of the field investigation.

Comment 8: Section 3.2, Site Remediation Goals, Page 6. The site is to be used as a golf course, which under RIDEM Remediation Regulations constitutes residential standards. The Navy is proposing commercial/ industrial standards. This is not acceptable. Please revise this paragraph and others throughout the document to reflect residential standards of 500 ppm of TPH.

Response: The document will be changed at your request.

Comment 9: Section 4.4.1, Test Pits, Page 7. This section and the accompanying Figure delineate the test pit as extending 40 feet from the perimeter of the tank. Be advised, that it is unlikely that the sludge pits would abut the perimeter of the tank, if for no other reason than to prevent a backhoe from accidentally hitting the tank walls. However, during the demolition action conducted at this site the soils in the vicinity of the tanks were extensively reworked. Further spills may have occurred in this area. Therefore, the testing of the soils immediately adjacent to the tanks is acceptable.

Response: The trench orientation will be adjusted so that each trench begins approximately 10 feet from the tank perimeter. The figure in the plan will be revised accordingly to show the revised trench orientation.

Comment 10: Section 4.4.1, Test Pits, Page 7. This proposed depth of the test pits is three feet. Please increase this depth to six feet to account for the fact that the soils adjacent to the tanks were extensively reworked.

Response: The Navy will increase the trench depth to 4 feet. The areas where the soils has been reworked are adjacent to the tanks, and since the depth of cover over the tanks was approximately 4-feet (see Comment 4), a test pit depth of 4 feet should intersect any potential contamination.

Comment 11: Section 4.4.1, Test Pits, Page 7. The work plan calls for the excavation of the test trench to a predetermined depth and collection of samples at the base of the trench. Obviously, contaminated soil may be found at any depth in the trench. Therefore, the plan should specify that during the excavation of the test trenches; the trench and soil will be inspected for contamination. If contaminated soil is encountered, a sample of soil will be collected at that depth. This is the same procedure that was implemented during the test pit excavations carried out at the Midway Pump House. Specifically, samples could be

collected at any depth during the excavation prior to reaching the predetermined depth of the excavation.

Response: During trench excavation, field personnel will be looking for signs of contamination such as odor and soil staining indicative of TPH. As discussed in Section 4.4.2, paragraph #1, if staining is observed, field screening and laboratory samples (as appropriate) will be collected from the stained area(s) or areas exhibiting odor. The plan will be revised to explicitly state that during excavation, the trench will be examined for signs of contamination and samples will be collected accordingly. The predetermined length and depth of the trenches were included in the plan to define an area where excavation would cease in an objective manner if no signs of contamination were observed in the trench.

Comment 12 Section 4.4.1, Test Pits, Page 7. The plan proposes excavating test pits to a specific length and orientation perpendicular to the tanks. The objective of the test pits is to uncover the former disposal pits. Obviously, a sludge pit may be located at the extreme end of a test pit and/or the sludge pit may be located at a divergent angle along the length of the test pit. Therefore, as typically required, the plan should allow for the extension of test pits or the excavation of additional test pits to investigate these potential areas of contamination.

Response: The predetermined length and depth of the trenches were included in the plan to define an area where excavation would cease in an objective manner if no signs of contamination were observed in the trench. If signs of contamination such as odor or staining are observed, the trenches will be extended as determined by the field conditions encountered during the investigation. The revised site investigation plan will clarify this.

Comment 13 Section 4.4.1, Test Pits, Page 7. "The assumption is that if tank bottom sludge disposal trenches were used, they would be located parallel to the perimeter of the UST. Therefore, test pit excavations will be located perpendicular to USTs former perimeter to increase the likelihood of intersecting a disposal trench, if any existed."

The Plan assumes that the sludge trenches would be located parallel to the tank. Accordingly, the test trenches are located so as to increase the likelihood of intersecting a disposal trench. This method is satisfactory for trenches, which would have been located parallel to the perimeters of the tanks. The Navy has not produced any documentation concerning the orientation of the test pits. It is known, however, that the disposal pit, which was uncovered during an inspection in 1979, was oriented perpendicular to the tank. Please note this in the Work Plan. In addition, the Navy should state how the proposed test-pitting scheme would address test pits orientated in this fashion.

Response: The orientation of previously encountered sludge pits will be identified in the revised site investigation plan. To increase the potential for exposing the sludge pits, the orientation and length of the individual test trenches will be revised. The revised plan will identify test trenches that begin 15 ft from the former UST perimeter. Alternately, test trenches will be oriented perpendicular and then parallel to the USTs to increase the probability of intersecting any sludge disposal

pits that may exist. The perpendicular trenches will be 20 lineal feet (lf) long and the trenches parallel to the UST will be approximately 60 lf.

Comment 14. Section 4.4.2, Field Screening for TPH, Page 7. The Plan proposes collecting three screening samples from the base of the trench at twenty-foot intervals starting at location immediately adjacent to the tank.

The test pit may intersect the side of a disposal trench. Limiting the TPH analysis to the base of the test pit will obviously not address this concern. Therefore, the plan should be modified to state that confirmatory samples might be collected from the base or the side of the excavation.

Response: Section 4.4.2 states that an additional field screening sample will be collected from stained soil. The plan will be revised to say that field screening sample(s) will be collected from area(s) of the trench that exhibit signs indicative of potential contamination, which includes olfactory, visual, and instrumentation indicators. As shown in Figure 4-1, Detail Trench Sampling Layout, confirmatory samples will be collected from the trench base as well as the sidewalls and will be analyzed for TPH.

Comment 15. Section 4.4.2, Field Screening for TPH, Page 7. The plan states that additional samples will be collected if stained soil is present. During remedial activities conducted on the base soils which were impacted by petroleum were not visibly stained, however, they did exhibit either olfactory or instrumentation evidence of its presence. Therefore, field evidence of contamination should include visual, olfactory and instrumentation.

Response: Refer to the Navy's response to specific comment #14.

Comment 16. Section 4.4.2, Field Screening for TPH, Page 7. The plan proposes collecting one additional sample per test pit if there is evidence of stained soils. Since it is possible that the test trench may intersect more than one disposal pit, limiting the number of additional samples to one is inappropriate. The plan should therefore not limit the number of additional samples and simply state that additional samples will be collected from areas of visual, olfactory, instrument, etc contamination

Response: The plan will be changed accordingly.

Comment 17: Section 4.4.2, Field Screening for TPH, Page 7. The Petro Flag kits also need to be correlated with low values to insure that clean is really clean. Paragraph 2 states that any sample over 1,000 ppm will be sent for off-site analysis while paragraph 3 states 10% of samples will be sent for off site analysis. It is conceivable that more than 10% of the samples could exceed 1,000 ppm. Please state which paragraph will govern.

Response: The text will be changed to indicate that the first 10 samples with Petroflag results in each of the following categories will be sent to the offsite laboratory: less than 500 ppm; between 500 and 1000 ppm; and greater than 1000 ppm. These samples will be analyzed for TPH for correlation to the Petroflag results. In addition, they will be analyzed for VOCs and SVOCs. A correlation between the TPH and VOC/SVOC results will be used to determine if TPH results meeting the Residential Criteria will also meet the VOC and SVOC Residential Criteria.

Following this correlation, it is planned that samples with Petroflag results exceeding 1000 ppm will be considered contaminated, samples with Petroflag results between 500 ppm and 1000 ppm will be sent to the offsite lab for final determination, and samples with Petroflag results less than 500 ppm will be considered clean.

Comment 18: Section 4.4.3, Validation and Confirmatory Sample Analysis and Analytical Methods, Page 7. This paragraph states that confirmatory samples will be collected from 0, 20, and 40 linear feet from the tank perimeter. As these locations may not be the areas where contamination exists the plan should be modified as follows: Confirmatory samples will be collected in areas, which currently exhibit or previously exhibited field evidence of contamination, (i.e., visual, olfactory, instruments) or previous had elevated levels of contamination.

Response: The predetermined sampling locations were included in the plan so an objective and consistent sampling strategy was developed in the event that no evidence of potential contamination was observed based on olfactory, instrumentation, or visual indicators. This sampling strategy will remain in the plan and the plan will be revised to explicitly state that, in the event that olfactory, instrumentation, or visual means indicate an area(s) of potential contamination, a sample(s) will be collected from this area(s) and analyzed accordingly.

Comment 19: Section 4.4.5, Backfilling. This paragraph states that no restoration activities are anticipated and that the site will be allowed to revegetate naturally. Due to concerns for erosion, at minimum the excavated areas must be reseeded.

Response: Following completion of field activities, disturbed areas will be reseeded with an annual grass that will allow for future natural revegetation.

Comment 20: Table 5-1, Summary of Analytical Sampling Programs. Be advised that if the number of field samples for the trench base and sidewalls exceed 12 and 24, respectively the Navy will be required to send these additional samples for off-site analysis irrespective of the number contained in this table.

Response: Please refer to the notation that says "Listed quantity assumes a total of four trench pits require confirmatory sampling."

Comment 21: Section 8.0, Final Report Preparation and Submittal. While it is noted that this document will satisfy the requirements of Section 14.09 of the UST Regulations, it must also satisfy the requirements of the RIDEM Site Remediation Regulations.

Response: The text will be modified as requested.

Comment 22: Section 8.0, Final Report Preparation and Submittal. Although not stated, it is assumed that the investigation activities outlined in this report will be photo documented, (photos or video). The same photo documented procedures that have been employed for other similar investigations carried out on the base can be applied to this site. Please modify the report accordingly.

Response: Photographic documentation of the site and of field operations will occur.

Comment 23: Section 8.0, Final Report Preparation and Submittal. Please submit copies of all field documentation, (field note books, field logs, photographs, etc.) to the Office of Waste Management.

Response: The appropriate field documentation will be included in the final report.

Comment 24: Section 5.4, Sample QA/QC, Page 12. Reports of this nature typically include sections dealing with sample collection and preservation procedures. Please include a section that details how all of the samples will be collected and preserved. Requirements normally specified in this section include, but are not limited to the following: methods how samples will be collected, (decon procedures, use of dedicated sampling equipment, homogenizing limitations, collection bias towards areas of contamination, etc) and methods on how samples will be preserved, (EPA Method 5035, coolers kept at 4 C, laboratory confirmation of cooler temperature, etc)

Response: This information will be included in the revised site investigation plan.