



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

OCT 18 2007

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Mark E. Davidson
US Navy
BRAC PMO SE
4130 Faber Place Drive
Suite 202
North Charleston, SC 29405

Re: Naval Activity Puerto Rico (NAPR), formerly Naval Station Roosevelt Roads,
EPA I.D. Number PRD2170027203,

Draft Phase I RCRA Facility Investigation (RFI) Work Plans for SWMUs 57, 60, 62, 67,
70, 71, 75 and 76

Dear Mr. Davidson:

This letter is addressed to you as the Navy's designated project coordinator pursuant to the January 29, 2007 RCRA Administrative Order on Consent ("the Consent Order") between the United States Environmental Protection Agency (EPA) and the U.S. Navy (the Navy). EPA Region 2 has completed its reviews of the above eight Phase I RFI work plan documents, which were submitted on behalf of the Navy, by Baker Environmental on August 31, 2007, pursuant to the requirements of the Consent Order. Based upon our reviews, which included reviews of the eight work plans by our consultant TechLaw Inc., EPA has determined that the eight draft Phase I RFI work plans are not fully acceptable. EPA has the following comments on those work plans:

1. The required Quality Assurance Project Plan (QAPP), which is included as an appendix to all the above RFI Work Plans, indicates (in Section 1.2 of the QAPP) that it was developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency (EPA) Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP does not meet the majority of the specific requirements provided in the above cited QA/R-5. Some examples include the following:
 - Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.

- The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
- The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
- The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of QA/R-5. However, the information presented in the QAPP included with the CMS work plans, lacks sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP should be completely revised to include sufficient detail to meet the requirements of UFP-QAPP guidance.

2. In the August 31, 2007 draft Work Plans and the schedules contained in those work plans, the Navy proposes that implementation of the work plans be suspended until the parcels containing solid waste management units (SWMUs) 57, 60, 62, 67, 70, 71, 75 and 76 are transferred or acquired by a "third party" entity, and that implementation of those eight RFI work plans then be carried out by the "third party" entity who acquires the parcel. While the January 2007 RCRA Consent Order allows suspension of certain Navy obligations for transferred portions of the facility (if those obligations are satisfied by requirements in a new "third party" Order), it does not allow for suspension prior to such transfers. Therefore, EPA is not willing to approve a suspension in the Navy's requirements with regard to these eight RFI work plans at this time. Once acceptable revisions of these work plans are developed to address EPA's comments on these work plans (including those in the below discussed Technical Reviews), implementation should commence within sixty (60) days of receipt of EPA's written approval of the work plan. Once an acceptable "third party" Template Order is finalized and an imminent transfer to a "third party" is identified and brought to EPA's attention, EPA may be willing to discuss an alternative timeframe for commencement of the required work.

3. Additional comments are also given in eight Technical Reviews (dated October 5th and 10th, 2007) prepared for EPA by our consultant, TechLaw, Incorporated. Since those eight Technical Reviews have been previously transmitted to you via separate Emails, they are not enclosed here. However, if you wish them to be electronically transmitted to you again, please advise. Please revise the eight draft RFI work plans to address the comments in those eight Technical Reviews (dated October 5th, 9th, and 10th, 2007).

Within 60 days of your receipt of this letter, please submit revisions to the above RFI work plans which address the above comments as well as the comments in the eight Technical Reviews (dated October 5th, 9th, and 10th, 2007), which have been previously transmitted to you via separate Emails.

If you have any questions, please telephone me at (212) 637- 4167.

Sincerely yours,



Timothy R. Gordon
Remedial Project Manager
Caribbean Section
RCRA Programs Branch

cc: Ms. Josefina Gonzalez, P.R. Environmental Quality Board.
Mr. Julio I. Rodriguez Colon, P.R. Environmental Quality Board
Mr. Pedro Ruiz, Naval Activity Puerto Rico
Mr. Dave Criswell, US Navy, BRAC PMO
Mr. Mark Kimes, Baker Environmental
Mr. Andrew Dorn, TechLaw Inc.
Mr. Felix Lopez, USF&WS



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October 9, 2007

REPA4R2-002-ID-031

Mr. Timothy Gordon
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866

Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of Draft Phase I RCRA Facility Investigation Work Plan SWMU 57, Task 03 Deliverable.

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 57* (Work Plan). Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a "Release Assessment" as described in EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A).

Of further note, per TechLaw's August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study (CMS) Work Plans for the NAPR site. The Appendix C, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002
- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)
- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

Mr. Timothy Gordon
October 9, 2007
Page 2

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
R. Sherfey/TL Central Files

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 57
DATED AUGUST, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
One Penn Plaza, Suite 2509
New York, NY 10119**

EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Andrew Dorn
Telephone No.	312-345-8963
EPA TOPO	Timothy Gordon
Telephone No.	212-637-4167

October 9, 2007

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 57
DATED AUGUST, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 57* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. Most of the figures include polygon features and the solid waste management unit (SWMU) boundary. However, they are lacking important details. For example Section 2.0, Site Background and Current Conditions, indicates that small miscellaneous debris that includes small cylinders and equipment were observed during the Phase I/II Environmental Condition of Property (ECP) within the SWMU boundaries. Revise the figures in the Work Plan to show the locations of this miscellaneous debris in relation to the proposed sampling locations.
2. According to Section 1.B.3 of EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. Due to the complex local hydrology and hydrogeology, a thorough evaluation of site conditions and potential migration pathways including a flow potentiometric map should be provided in the Work Plan.
3. The Navy has proposed using low-flow purging and sampling procedures to sample the temporary wells at SWMU 57. These wells are reported to have 1-inch diameter inner well casings. While this is an acceptable procedure for extracting the sample, the usability of the data may be limited. It should be noted that the Region 2 Standard Operating Procedure (SOP) states that the low flow procedure is applicable to *monitoring wells that have an inner casing with a diameter of 2.0 inches or greater*. In addition, although not included in the Region 2 SOP, in order to generate data of acceptable quality to make "final" risk-based decisions, the low flow groundwater samples need to be collected from a properly constructed well that has been adequately developed.

The data collected from the proposed temporary wells at SWMU 57 will be "screening" type data. The results will indicate whether there "is" or "is not"

contamination in the shallow aquifer. If the resulting data exceeds screening levels, it may be necessary to install properly constructed wells in order to make risk-based decisions on potential impacts to human health and the environment. Revise the Work Plan to allow for the installation of permanent wells if the “screening” level data shows releases to groundwater.

4. Groundwater sampling is proposed at location 13GW11. However, this well appears to be outside the “down-gradient footprint” to the northwest of the SWMU footprint. Fixed well 13GW07 is fairly down-gradient of the SWMU. It is uncertain that sampling 13GW07 will be useful in determining if a release has occurred from the SWMU. Previous temporary well data have indicated that contaminants were detected in groundwater. Therefore, it would appear prudent to install a fixed well along a centerline trending to the northwest, down-gradient of the SWMU in order to adequately determine if a release has occurred.
5. Results from previous sampling events were compared to EPA Region 3 risk-based concentrations (RBCs). The Work Plan states that the results from this sampling event are to be compared to EPA Region 9 preliminary remediation goals (PRGs). Provide a discussion of the rationale for this change in screening values, and discuss how the change impacts the previous screening of samples.
6. Based on the data tables available in Appendix B, it appears that sample location 3E-06 has the highest detected levels of most of the contaminants. Nevertheless, no additional samples are proposed outside of this sampling location. If a release migrated to the west of the SWMU, the proposed sampling locations may not be suitable to detect it.
7. The Appendix C, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix C does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a. Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b. Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.
 - c. The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d. The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
 - e. The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix C should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

8. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix C QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
9. The Appendix C QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

1. **Section 1.2, Site Location and History, Page 1-2:** The last sentence of the second paragraph in Section 1.2 states that "POL [petroleum, oils, and lubricants] and potentially other hazardous materials were stored at the site, with numerous spills and releases throughout the usage period." Revise this section to specify what "potentially other hazardous materials" were stored at the site. At a minimum, include the chemical classifications for the types of hazardous materials potentially managed at this unit.
2. **Section 1.2, Site Location and History, Page 1-2:** The first sentence of the last paragraph of Section 1.2 states that "some small miscellaneous debris including small cylinders and equipment were observed on the concrete pad." Revise this section to describe in more detail the type of equipment that was observed on the concrete pad.

3. **Section 1.3, Objectives, Page 1-3:** This section outlines the objectives of the RCRA Facility Investigation (RFI) and lists the contaminants for which soil and groundwater samples will be analyzed. Although it is stated that the objective of the concrete chip sampling is to “determine if past releases from items stored on the concrete pad occurred,” it is not clear for what contaminants the chip samples will be analyzed. Revise Section 1.3 so that it specifies the contaminants for which the chip samples will be analyzed ensuring that it is consistent with the description of the groundwater and soil sampling explanation provided.
4. **Section 1.3, Objectives, Page 1-3 and Section 3.0. Scope of Investigation, Page 3-1:** In Section 1.3 of the RFI Work Plan, it is stated that “concrete chip samples will be collected . . .” Section 3.0 indicates that the collection of concrete chip samples is contingent on a visual observation of the concrete pad. Revise Section 1.3 so that it is clear that it is not definite that concrete chip samples will be collected.
5. **Section 2.2, Previous Investigations, Page 2-2:** The last paragraph in Section 2.2 discusses the conclusions of the Phase II ECP and states that “based on the limited groundwater investigation and observations noted during the field event, it is tentatively concluded that the groundwater has not been impacted by previous activities. However, the limited nature of the Phase II ECP Investigation should be especially noted at this site, as higher concentrations may be present due to its past use as a hazardous waste storage area.” It not clear from this statement as to what contaminants or types of contaminants may be present in groundwater at higher concentrations. Revise Section 2.2 to clarify what contaminants are being described here.
6. **Section 3.1, Soil Sampling and Analysis Program, page 3-1:** This section states that, “A boring log will be developed for each boring location.” Revise the Work Plan to clarify that blow counts, lithology, water occurrence, flame ionization detector (FID)/ photo ionization detector (PID) reading, and miscellaneous observations will be recorded on the boring logs as soil sampling will be based on FID/PID, olfactory and visual screening results.

ERRATA

1. **Table 3-2, Method Performance Limits, Appendix IX Compound List and Contract Required Quantitation Limits (CRQL) Phase I RFI Work Plan SWMU 57- Facility No. 278 POL Drum Storage Area:** It appears that the first row and second and third columns of page one of Table 3-2 are missing the words “Quantitation Limits.” This also applies to Page 7 of Table 3-2. Revise Table 3-2 of the Work Plan to fix these minor errors.



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October 5, 2007

REPA4R2-002-ID-028

Mr. Timothy Gordon
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866

Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of Draft Phase I RCRA Facility Investigation Work Plan SWMU 60, Task 03 Deliverable.

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 60* (Work Plan). Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a "Release Assessment" as described in EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A).

Of further note, per TechLaw's August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study (CMS) Work Plans for the NAPR site. The Appendix D, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002
- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)
- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

Mr. Timothy Gordon

October 5, 2007

Page 2

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
R. Sherfey/TL Central Files

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 60
DATED AUGUST 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
One Penn Plaza, Suite 2509
New York, NY 10119**

EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Andrew Dorn
Telephone No.	312-345-8963
EPA TOPO	Timothy Gordon
Telephone No.	212-637-4167

October 5, 2007

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 60
DATED AUGUST 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 60* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. Most of the figures include polygon features and the solid waste management unit (SWMU) boundary. However, they are lacking important details. For example Section 2.0, Site Background and Current Conditions, indicates that aboveground storage tanks (ASTs) and an associated underground piping system, which are no longer used, are present within the boundary of the SWMU. It is also indicated that Ensenada Honda is located within the boundary of the SWMU. Revise the Work Plan figures to show the locations of the aforementioned areas or features in relation to the proposed sampling locations.
2. According to Section 1.B.3 of EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. Due to the complex local hydrology and hydrogeology, a thorough evaluation of site conditions and potential migration pathways including a flow potentiometric map should be provided in the Work Plan.
3. The Navy has proposed using low-flow purging and sampling procedures to sample the temporary wells at SWMU 60. These wells are reported to have 1-inch diameter inner well casings. While this is an acceptable procedure for extracting the sample, the usability of the data may be limited. It should be noted that the Region 2 Standard Operating Procedure (SOP) states that the low flow procedure is applicable to *monitoring wells that have an inner casing with a diameter of 2.0 inches or greater*. In addition, although not included in the Region 2 SOP, in order to generate data of acceptable quality to make "final" risk-based decisions, the low flow groundwater samples need to be collected from a properly constructed well that has been adequately developed.

The data collected from the proposed temporary wells at SWMU 60 will be

“screening” type data. The results will indicate whether there “is” or “is not” contamination in the shallow aquifer. If the resulting data exceeds screening levels, it may be necessary to install properly constructed wells in order to make risk-based decisions on potential impacts to human health and the environment. Revise the Work Plan to allow for the installation of permanent wells if the “screening” level data shows releases to groundwater.

4. According to the data provided in Appendix B, Table C-7, sample 6E-SED02 collected from location 6E-SW/SED02 indicates elevated detection limits for sediment semi-volatile organic compounds (SVOCs). There is no explanation as to the cause for the elevated Method Detection Limits/ Practical Quantitation Limits (MDLs/PQLs). There are currently no plans to resample in this location. Provide a discussion as to what impacts occurred in the analysis of this sample that resulted in elevated MDLs/PQLs for SVOCs or resample in this area and/or sample to the east along the shoreline.
5. Results from previous sampling events were compared to EPA Region 3 risk-based concentrations (RBCs). The Work Plan states that the results from this sampling event are to be compared to EPA Region 9 preliminary remediation goals (PRGs). The screening values should be consistent. Provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.
6. The Appendix D, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix D does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a. Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b. Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.
 - c. The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d. The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
 - e. The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2’s current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will

meet the requirements of QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix D should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

7. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix D QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
8. The Appendix D QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

1. **Section 1.2, Site Description and History, Page 1-2:** The second sentence of the first paragraph of Section 1.2 states that the Environmental Condition of Property (ECP) Phase II Investigation concluded that there were contaminants of potential concern (COPCs) that were characterized as presenting a low risk to human health. Revise Section 1.2 to indicate which COPCs were found to present a low risk to human health.
2. **Section 2.2.1, Site Characterization, Page 2-1:** The Work Plan Practical Quantitation Limit in the first paragraph of Section 2.2.1 discusses the former ASTs and associated underground piping system. The Work Plan does not discuss the depth of the underground piping system. Moreover, this section discusses the contamination that was detected in soil samples collected during the Site Characterization in the vicinity of the underground piping system, but does not discuss the depths of the samples in which the contamination was detected. The Work Plan needs to ensure that soil samples are collected from sufficient depth to indicate whether a release has occurred from beneath the underground piping system. If the shallow groundwater hinders this process, then ensure that samples are collected directly downgradient of these areas with respect to groundwater flow.

Revise the Work Plan to explain how the proposed sampling scheme addresses these concerns, or make any necessary modifications to do so.

3. **Section 3.1, Soil Sampling and Analysis Program, page 3-1:** This section states that, “A boring log will be developed for each boring location.” Revise the Work Plan to clarify that blow counts, lithology, water occurrence, flame ionization detector (FID)/ photo ionization detector (PID) reading, and miscellaneous observations will be recorded on the boring logs as soil sampling will be based on FID/PID, olfactory and visual screening results.
4. **Table 3-3: Summary of Sampling and Analytical Program QA/QC and IDW Samples:** There are two headings for total metals, but there is no heading for dissolved metals. Revise this table so that it contains the correct headings for total and dissolved metals.



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October 5, 2007

REPA4R2-002-ID-029

Mr. Timothy Gordon
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866

Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of Draft Phase I RCRA Facility Investigation Work Plan SWMU 62, Task 03

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 62* (Work Plan). Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a "Release Assessment" as described in EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A).

Of further note, per TechLaw's August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study (CMS) Work Plans for the NAPR site. The Appendix C, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002
- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)
- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

Mr. Timothy Gordon
October 5, 2007
Page 2

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
R. Sherfey/TL Central Files

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 62
DATED AUGUST 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
One Penn Plaza, Suite 2509
New York, NY 10119**

EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Andrew Dorn
Telephone No.	312-345-8963
EPA TOPO	Timothy Gordon
Telephone No.	212-637-4167

October 5, 2007

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 62
DATED AUGUST 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 62* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. Most of the figures include polygon features and the solid waste management unit (SWMU) boundary. However, they are lacking important details. For example Section 2.0, Site Background and Current Conditions, indicates that during both the Phase I and II Environmental Condition of Property (ECP) investigations, numerous piles of mounded gravel and charcoal, metal and building debris, and two empty 55-gallon drums were observed within the boundary of the SWMU. Revise the figures in the Work Plan to show the locations of the aforementioned areas in relation to the proposed sampling locations, or clarify why sufficient information is not available to do so.
2. According to Section 1.B.3 of EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. Due to the complex local hydrology and hydrogeology, a thorough evaluation of site conditions and potential migration pathways including a flow potentiometric map should be provided in the Work Plan.
3. The Work Plan states in the last sentence of the second paragraph on Page 3-2 that no organic compounds were detected during the ECP investigation and therefore, subsurface soil samples will only be analyzed for Appendix IX metals. During the ECP investigation, subsurface soil samples were only collected from two locations. It does not appear that the collection of samples from only two locations is sufficient to warrant the exclusion of organic compounds in the analysis of subsurface soil samples during this Phase I RCRA Facility Investigation (RFI). Revise the Work Plan to better justify the exclusion of organic compounds in the analysis of subsurface soil samples or make any necessary modifications to do so.

4. According to Section 2.2, Previous Investigation, on page 2-1, auger refusal was encountered at sample location 8E-02. The proposed sampling does not attempt to determine if auger refusal was bedrock or debris. Revise the Work Plan to allow for the collection of data which would conclusively determine the cause for the auger refusal encountered at sample location 8-E02.
5. The Navy has proposed using low-flow purging and sampling procedures to sample the temporary wells at SWMU 62. These wells are reported to have 1-inch diameter inner well casings. While this is an acceptable procedure for extracting the sample, the usability of the data may be limited. It should be noted that the Region 2 Standard Operating Procedure (SOP) states that the low flow procedure is applicable to *monitoring wells that have an inner casing with a diameter of 2.0 inches or greater*. In addition, although not included in the Region 2 SOP, in order to generate data of acceptable quality to make “final” risk-based decisions, the low flow groundwater samples need to be collected from a properly constructed well that has been adequately developed.

The data collected from the proposed temporary wells at SWMU 62 will be “screening” type data. The results will indicate whether there “is” or “is not” contamination in the shallow aquifer. If the resulting data exceeds screening levels, it may be necessary to install properly constructed wells in order to make risk-based decisions on potential impacts to human health and the environment. Revise the Work Plan to allow for the installation of permanent wells if the “screening” level data shows releases to groundwater.

6. Results from previous sampling events were compared to EPA Region 3 risk-based concentrations (RBCs). The Work Plan states that the results from this sampling event are to be compared to EPA Region 9 preliminary remediation goals (PRGs). The screening values should be consistent. Provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.
7. The Appendix C, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix C does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a) Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b) Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.
 - c) The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d) The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.

- e) The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix C should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

- 8. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix C QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
- 9. The Appendix C QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

- 1. **Section 3.1, Soil Sampling and Analysis Plan, Page 3-2:** Section 3.1 outlines the locations where soil samples will be collected. From the explanation, it is not clear if samples will be collected in the areas where mounded gravel and charcoal and metal and building debris were observed. Revise the Work Plan to discuss whether samples will be collected from these locations. If there are no plans to sample these areas, then provide a justification.

2. **Section 3.1, Soil Sampling and Analysis Program, page 3-1:** This section states that, “A boring log will be developed for each boring location.” Revise the Work Plan to clarify that blow counts, lithology, water occurrence, flame ionization detector (FID)/ photo ionization detector (PID) reading, and miscellaneous observations will be recorded on the boring logs as soil sampling will be based on FID/PID, olfactory and visual screening results.

3. **Figure 3-1, Proposed Sample Location Map, SWMU 62 – Former Bundy Disposal Area:** The note on Figure 3-1 should be expanded to indicate that the sample locations affected will be locations 62SB09 and S3SB10.



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October 5, 2007

REPA4R2-002-ID-030

Mr. Timothy Gordon
U.S. Environmental Protection Agency
Region 2
290 Broadway
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Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of Draft Phase I RCRA Facility Investigation Work Plan SWMU 67, Task 03

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 67* (Work Plan). Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a "Release Assessment" as described in EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A).

Of further note, per TechLaw's August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study (CMS) Work Plans for the NAPR site. The Appendix D, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002
- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)
- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

Mr. Timothy Gordon
October 5, 2007
Page 2

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
R. Sherfey/TL Central Files

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 67
DATED AUGUST 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
One Penn Plaza, Suite 2509
New York, NY 10119**

EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Andrew Dorn
Telephone No.	312-345-8963
EPA TOPO	Timothy Gordon
Telephone No.	212-637-4167

October 5, 2007

**TECHNICAL REVIEW OF THE
DRAFT PHASE I RCRA FACILITY INVESTIGATION WORK PLAN SWMU 67
DATED AUGUST 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 67* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. Most of the figures include polygon features and the solid waste management unit (SWMU) boundary. However, they are lacking important details. For example Section 2.0, Site Background and Current Conditions indicates that a concrete pad and remnants of an existing foundation, tennis courts, and a swale are located within the boundary of the SWMU. Revise the Work Plan to show the locations of the aforementioned areas in relation to the proposed sampling locations.
2. According to Section 1.B.3 of EPA's May 1994 guidance "Final RCRA Corrective Action Plan" (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. Due to the complex local hydrology and hydrogeology, a thorough evaluation of site conditions and potential migration pathways including a flow potentiometric map should be provided in the Work Plan.
3. The Work Plan states that surface and subsurface soil samples will be collected from the SWMU and analyzed for Appendix IX volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. According to the Final Phase I/II Environmental Condition of Property report conducted at this site, VOCs, SVOCs, and total petroleum hydrocarbons gasoline range organics (TPH GRO), and twelve inorganic compounds were detected in subsurface soil. Therefore, it appears that the Work Plan should include TPH GRO and also TPH diesel range organics (to be conservative) in the analysis of subsurface and surface soil samples at SWMU 67.
4. The Navy has proposed using low-flow purging and sampling procedures to sample the temporary wells at SWMU 62. These wells are reported to have 1-inch diameter inner well casings. While this is an acceptable procedure for extracting the sample, the usability of the data may be limited. It should be noted that the Region 2 Standard Operating Procedure (SOP) states that the low flow procedure is applicable to

monitoring wells that have an inner casing with a diameter of 2.0 inches or greater. In addition, although not included in the Region 2 SOP, in order to generate data of acceptable quality to make “final” risk-based decisions, the low flow groundwater samples need to be collected from a properly constructed well that has been adequately developed.

The data collected from the proposed temporary wells at SWMU 62 will be “screening” type data. The results will indicate whether there “is” or “is not” contamination in the shallow aquifer. If the resulting data exceeds screening levels, it may be necessary to install properly constructed wells in order to make risk-based decisions on potential impacts to human health and the environment. Revise the Work Plan to allow for the installation of permanent wells if the “screening” level data shows releases to groundwater.

5. Results from previous sampling events were compared to EPA Region 3 risk-based concentrations (RBCs). The Work Plan states that the results from this sampling event are to be compared to EPA Region 9 preliminary remediation goals (PRGs). The screening values should be consistent. Provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.
6. Soil SVOCs have elevated detection limits at location 13E-SB03. An additional sample is proposed for this area. The Work Plan does not discuss the cause for the elevated Method Detection Limits/Practical Quantitation Limits (MDLs/PQLs). Care should be taken to prevent a similar situation from occurring during the next round of sampling. Revise the Work Plan to include text clarifying the cause of the elevated MDLs/PQLs and a strategy for preventing its re-occurrence.
7. The Work Plan text in Section 2.2 indicates that the elevated metals detected in groundwater at this SWMU are due primarily to naturally occurring elevated metals appearing in groundwater. Elevated levels of metals that are naturally occurring have not been detected consistently at other SWMUs in groundwater at this site. Consideration in the text should be given to the potential for any hydrocarbon releases to have altered the electrostatic makeup of the subsurface soils to lend themselves to more readily mobilizing metals from soils to groundwater. Revise the Work Plan text and/or the resulting Report to discuss this phenomenon.
8. The Appendix D, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix D does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a. Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b. Per QA/R-5, examples of all forms, labels and checklists should be included

- as part of the QAPP. These are not all provided.
- c. The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d. The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
 - e. The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix D should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

9. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix D QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
10. The Appendix D QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

1. **Section 3.0, Scope of Investigation, Page 3-1:** The third bullet in Section 3.0 states that "one sample will be collected from any area of suspected contamination..." It is not clear how or when these areas of suspected contamination will be identified. Clarify how and when these suspected areas of contamination will be identified.

2. **Section 3.1, Soil Sampling and Analysis Program, Page 3-1:** Section 3.1 states that the former gas station is identified on Figure 1-3. It does not appear that the former gas station is identified on this figure. Please identify the former gas station on Figure 1-3.
3. **Section 3.1, Soil Sampling and Analysis Program, page 3-1:** This section states that, “A boring log will be developed for each boring location.” Revise the Work Plan to clarify that blow counts, lithology, water occurrence, flame ionization detector (FID)/ photo ionization detector (PID) reading, and miscellaneous observations will be recorded on the boring logs as soil sampling will be based on FID/PID, olfactory and visual screening results.
4. **Section 3.1, Soil Sampling and Analysis Program, Page 3-1:** Section 3.1 outlines the locations in which soil samples will be collected. For example, it is stated that “the eight [sample] locations are positioned to the north, south, east and west of the tennis courts, with the majority of the samples (a total of 5) positioned to the north in the immediate vicinity of the former gas station...” In addition to the aforementioned description, it would be beneficial to specify the sampling locations as they are named on Figure 3-1.
5. **Appendix B – Summary of Analytical Results from Phase II ECP Study, Table B-1, B-2, and B-3:** In each of these three tables, certain cells are highlighted and it is not clear as to why. Clarify why certain cells are highlighted in these three tables.



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October 9, 2007

REPA4R2-002-ID-032

Mr. Timothy Gordon
U.S. Environmental Protection Agency
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Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of the Draft Phase I RCRA Facility Investigation Work Plan for SWMU 70 – Disposal Area Northwest of Landfill, Task 03 Deliverable.

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 70 – Disposal Area Northwest of Landfill* (Work Plan). Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a “Release Assessment” as described in EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A).

It does not appear that enough information has been provided to determine whether or not a release is present at the unit. In addition, it does not appear that the proposed investigation will provide enough information to aid in the release determination. This is predominately due to the physical characteristics of SWMU 70 (i.e., estuarine wetlands, mangrove swamp, proximity to Ensenda Honda) and lack of information provided regarding site conditions and potential migration pathways. It is strongly suggested that details regarding site conditions and potential migration pathways be provided. In addition, it is suggested that the rationale for the proposed investigation discuss the impacts the site conditions and potential migration pathways have on the proposed sampling locations.

Of further note, per TechLaw’s August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study (CMS) Work Plans for the NAPR site. The Appendix C, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002

- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)
- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
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**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 70 – DISPOSAL AREA NORTHWEST OF LANDFILL
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
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**TechLaw, Inc.
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EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Andrew Dorn
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October 9, 2007

**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 70 – DISPOSAL AREA NORTHWEST OF LANDFILL
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 70 – Disposal Area Northwest of Landfill* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. The Navy has proposed using low-flow purging and sampling procedures to sample the temporary wells at solid waste management unit (SWMU) 70. These wells are reported to have 1-inch diameter inner well casings. While this is an acceptable procedure for extracting the sample, the usability of the data may be limited. It should be noted that the Region 2 Standard Operating Procedure (SOP) states that the low flow procedure is applicable to *monitoring wells that have an inner casing with a diameter of 2.0 inches or greater*. In addition, although not included in the Region 2 SOP, in order to generate data of acceptable quality to make “final” risk-based decisions, the low flow groundwater samples need to be collected from a properly constructed well that has been adequately developed.

The data collected from the proposed temporary wells at SWMU 70 will be “screening” type data. The results will indicate whether there “is” or “is not” contamination in the shallow aquifer. If the resulting data exceeds screening levels, it may be necessary to install properly constructed wells in order to make risk-based decisions on potential impacts to human health and the environment. Revise the Work Plan to allow for the installation of permanent wells if the “screening” level data shows releases to groundwater.

2. According to Section 1.B.3 of EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. Due to the complex local hydrology and hydrogeology, a thorough evaluation of site conditions and potential migration pathways including a flow potentiometric map should be provided in the Work Plan.
3. Section 3.0 (Scope of Investigation) states that, “Consideration was given to site topography, site features, historical operational features of the facility, and anticipated groundwater flow direction when selecting the sampling locations.” However, details regarding these considerations and the influences of the physical characteristics of SWMU 70 have not been

discussed. Subsequently, it is unclear if the soil and groundwater sampling and analysis program is adequate. For example, one soil boring has been proposed south of 16E-05. However, due to the lack of information regarding groundwater flow direction and influences of the estuarine wetland and Ensenda Honda, it is unclear why soil borings were not proposed north, east or west of 16E-05. Revise the Work Plan to provide the rationale for the soil and groundwater sampling and analysis program including information on the influences of the estuarine wetland and Ensenada Honda.

4. Section 4.4 (Nature and Extent of Contamination) of the Work Plan states that soil and groundwater analytical data will be screened against EPA Region 9 preliminary remediation goals (PRGs) and previously developed ecological screening values. In addition, groundwater analytical data will be compared to Federal maximum contaminant levels (MCLs). However, Section 1.1 (Problem Definition and Performance Standards) of Appendix C [Quality Assurance Project Plan (QAPP)] identifies Puerto Rico Environmental Quality Board (PREQB) target levels and Region 9 PRGs as the screening criteria/performance standards to be utilized. The performance standards identified in the Work Plan and QAPP need to be consistent, and should be EPA-approved. Revise the Work Plan and QAPP so that the screening criteria/performance standards are the same. In addition, previously collected site-specific data is currently screened to EPA Region 3 risk-based concentrations (RBCs). The data assessment/screening process needs to be consistent. Provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.
5. The Appendix C, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix C does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a. Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b. Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.
 - c. The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d. The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
 - e. The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to

meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix C should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

6. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix C QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
7. The Appendix C QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

1. **Section 3.1, Soil Sampling and Analysis Program, Page 3-1:** This section states that, “A boring log will be prepared indicating blow counts, lithology, water occurrence, and miscellaneous observations.” Revise the Work Plan to clarify that flame ionization detector (FID)/ photo ionization detector (PID) reading will also be recorded on the boring logs as soil sampling will be based on FID/PID screening results.
2. **Section 3.3, Groundwater Sampling and Analysis Program, Page 3-3:** This section states that, “Groundwater is very shallow in these areas (generally less than 1-foot bgs), and it may not be possible to install a temporary well. In those cases, groundwater will be obtained by inserting a 5-foot screen into the ground and then sampling using dedicated tubing and a peristaltic pump to extract the groundwater (as described in Appendix D).” However, this groundwater sampling method has not been discussed or described in Appendix D [USEPA Region II – Groundwater Sampling Procedure Low Stress (Low Flow) Purging and Sampling]. Revise the Work Plan to provide the groundwater sampling procedures for groundwater obtained by inserting a five-foot screen into the ground and then sampling using dedicated tubing and a peristaltic pump to extract the groundwater.

3. **Section 3.4, Sediment Sampling and Analysis Program, Page 3-4:** The third paragraph of the section states that, “All sediment samples will be analyzed for Appendix IX SVOCs, PCBs, total metals, low-level PAHs, and TPH GRO/DRO (refer to Table 3-1).” According to Sections 3.1 (Soil Sampling and Analysis Program) and 3.3 (Groundwater Sampling and Analysis Program), soil and groundwater samples will be analyzed for Appendix IX VOCs. It is unclear why sediment samples will not be analyzed for VOCs. Revise the Work Plan to include VOC analysis for sediment samples or provide justification for why sediment samples will not be analyzed for VOCs.

4. **Section 4.4, Nature and Extent of Contamination, Page 4-1:** According to Section 2.2 (Previous Investigations) and Appendix B (Summary of Analytical Results from Phase II ECP Study), analytical results from the Phase I/II ECP investigation were compared to EPA Region 3 RBCs. As such, it is unclear why analytical results from the proposed investigation will be compared to EPA Region 9 PRGs, previously developed ecological screening values and/or Federal MCLs. Revise the Work Plan to provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.

5. **Section 4.4, Nature and Extent of Contamination, Page 4-1:** Section 4.4 states that sediment analytical data will only be compared to ecological sediment screening values. Due to the physical characteristics (i.e., wetlands, mangrove swamp) and proximity to Ensenada Honda, it is unclear why sediment and soil analytical data will not be screened against the same screening criteria/performance standards. Revise the Work Plan to clarify why sediment analytical data will only be compared to ecological sediment screening values.



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October 9, 2007

REPA4R2-002-ID-033

Mr. Timothy Gordon
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866

Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of the Draft Phase I RCRA Facility Investigation Work Plan for SWMU 71 – Quarry Disposal Site, Task 03 Deliverable.

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 71 – Quarry Disposal Site (Work Plan)*. Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a “Release Assessment” as described in EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A).

It does not appear that enough information has been provided to determine whether or not a release is present at the unit. In addition, it does not appear that the proposed investigation will provide enough information to aid in the release determination. For example, drums containing a tar-like substance were observed during the construction of the commissary parking lot. Based on the sampling locations presented in Section 3.0 (Scope of Investigation), only one sample has been proposed in the assumed downgradient direction (i.e., southeast) from the commissary parking lot (i.e., 71SB06). Subsequently, it is unclear if the soil and groundwater sampling and analysis program adequately evaluates potential release sources.

Of further note, per TechLaw’s August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study (CMS) Work Plans for the NAPR site. The Appendix C, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002
- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)

Mr. Timothy Gordon
October 9, 2007
Page 2

- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
R. Sherfey/TL Central Files

**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 71 – QUARRY DISPOSAL SITE
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
One Penn Plaza, Suite 2509
New York, NY 10119**

EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Andrew Dorn
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October 9, 2007

**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 71 – QUARRY DISPOSAL SITE
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 71 – Quarry Disposal Site* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. The Navy has proposed using low-flow purging and sampling procedures to sample the temporary wells at solid waste management unit (SWMU) 71. These wells are reported to have 1-inch diameter inner well casings. While this is an acceptable procedure for extracting the sample, the usability of the data may be limited. It should be noted that the Region 2 Standard Operating Procedure (SOP) states that the low flow procedure is applicable to *monitoring wells that have an inner casing with a diameter of 2.0 inches or greater*. In addition, although not included in the Region 2 SOP, in order to generate data of acceptable quality to make “final” risk-based decisions, the low flow groundwater samples need to be collected from a properly constructed well that has been adequately developed.

The data collected from the proposed temporary wells at SWMU 71 will be “screening” type data. The results will indicate whether there “is” or “is not” contamination in the shallow aquifer. If the resulting data exceeds screening levels, it may be necessary to install properly constructed wells in order to make risk-based decisions on potential impacts to human health and the environment. Revise the Work Plan to allow for the installation of permanent wells if the “screening” level data shows releases to groundwater.

2. According to Section 1.B.3 of EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. For example, information to support the conclusion that the assumed downgradient direction is generally east/southeast towards the nearest shoreline to the ocean has not been provided. Revise the Work Plan to provide the aforementioned information. In addition, provide information to support the assumption that the downgradient direction is generally east/southeast towards the nearest shoreline of the ocean.

3. According to Section 1.2 (Site Location and History), drums containing a tar-like substance were observed during the construction of the commissary parking lot. Based on the sampling locations presented in Section 3.0 (Scope of Investigation), only one sample has been proposed in the assumed downgradient direction (i.e., southeast) from the commissary parking lot (i.e., 71SB06). Section 3.0 (Scope of Investigation) states that, “Consideration was given to site topography, site features, historical operational features of the facility, and the results from the [Environmental Condition of Property] ECP Phase II Investigation.” However, the lack of sampling in the vicinity of the commissary parking lot does not support this statement. Subsequently, it is unclear if the soil and groundwater sampling and analysis program is adequate. Revise the Work Plan to provide soil and groundwater sampling and analysis in the vicinity of the commissary parking lot or provide the rationale for why sampling was not proposed in the vicinity of this potential release source.
4. Section 4.4 (Nature and Extent of Contamination) of the Work Plan states that soil and groundwater analytical data will be screened against EPA Region 9 preliminary remediation goals (PRGs) and previously developed ecological screening values. In addition, groundwater analytical data will be compared to Federal maximum contaminant levels (MCLs). However, Section 1.1 (Problem Definition and Performance Standards) of Appendix C [Quality Assurance Project Plan (QAPP)] identifies Puerto Rico Environmental Quality Board (PREQB) target levels and Region 9 PRGs as the screening criteria/performance standards to be utilized. The performance standards identified in the Work Plan and QAPP need to be consistent, and should be EPA-approved. Revise the Work Plan and QAPP so that the screening criteria/performance standards are the same. In addition, previously collected site-specific data is currently screened to EPA Region 3 risk-based concentrations (RBCs). The data assessment/screening process needs to be consistent. Provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.
5. According to Section 1.2 (Site Location and History), “The full extent of the disposal area is unknown.” As such, it is unclear why a significant portion of the 1976, 1977 and 1985 polygon features found in the vicinity of Building 2394 on Figure 3-1 (Proposed Sample Location Map) have not been addressed by the proposed sampling plan. Revise the Work Plan to include further investigation and analysis of these areas or provide for a phased approach so that if analysis performed as part of this Phase I RFI indicates that past activities in these areas have impacted the soil and/or groundwater, then further investigation and analysis will be proposed under the full RFI investigation.
6. The analytical results for semivolatile organic compounds (SVOCs) at location 17E-02, at a depth of 2 to 4 feet had elevated detection limits. There is no explanation provided for this occurrence. It could be indicative of a dilution, which would indicate contamination at some undetectable level as a result of the dilution. Revise the Work Plan to discuss this issue and discuss measures that can be implemented to prevent the reoccurrence of elevated method detection limits (MDLs)/ practical quantitation limits (PQLs) above screening criteria.

7. The Appendix C, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix C does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a. Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b. Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.
 - c. The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d. The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
 - e. The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix C should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

8. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix C QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
9. The Appendix C QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

1. **Section 3.0, Scope of Investigation, Page 3-1:** The third paragraph states that, “. . . [I]f elevated [flame ionization detector / photo ionization detector] FID/PID readings and/or other signs of fuel contamination noted previously are present in the soil or groundwater at these locations, then the sampling program will be expanded to include subsurface soil and groundwater sampling at 71SB07, 71SB08 and 71SB09 to investigate whether the contamination has migrated further downgradient.” However, the Work Plan does not clarify what constitutes an elevated FID/PID reading. Revise the Work Plan to clarify what constitutes an elevated FID/PID reading that would warrant additional downgradient subsurface soil and groundwater sampling. Similarly, define the signs, as referenced in the second bullet on page 3-2, which would warrant the installation of additional temporary wells in the assumed downgradient direction.
2. **Section 3.0, Scope of Investigation, Page 3-1:** According to Figure 3-1 (Proposed Sample Location Map) and the first bullet on page 3-1, ten surface soil samples will be collected at sample locations 71SB01 through 71SB10. However, according to Table 3-1 (Summary of Sampling and Analytical Program), surface soil samples will not be collected at 71SB04, 71SB05 or 71SB06. Revise the Work Plan to resolve this discrepancy.
3. **Section 3.0, Scope of Investigation, Page 3-1:** The second bullet on page 3-1 states that subsurface soil samples will be collected from eight boring locations. Whereas, Figure 3-1 (Proposed Sample Location Map) shows first tier subsurface soil samples will be collected from seven sample locations (i.e., 71SB01 through 71SB06, 71SB10) and Table 3-1 (Summary of Sampling and Analytical Program) shows that first tier subsurface soil samples will be collected from six locations (i.e., 71SB01 through 71SB06). Revise the Work Plan to resolve this discrepancy.
4. **Section 3.1, Soil Sampling and Analysis Program, Page 3-2:** This section states that, “A boring log will be prepared indicating blow counts, lithology, water occurrence, and miscellaneous observations.” Revise the Work Plan to clarify that FID/PID screening readings will also be recorded on the boring logs as soil sampling will be based on FID/PID screening results.
5. **Section 4.4, Nature and Extent of Contamination, Page 4-1:** According to Section 2.2 (Previous Investigations) and Appendix B (Summary of Analytical Results from Phase II ECP Study), analytical results from the Phase II ECP investigation were compared to EPA Region III risk based concentrations (RBCs). As such, it is unclear why analytical results from the proposed investigation will be compared to EPA Region 9 PRGs, previously developed ecological screening values and/or Federal MCLs. Revise the Work Plan to provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.



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October 10, 2007

REPA4R2-002-ID-034

Mr. Timothy Gordon
U.S. Environmental Protection Agency
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Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of the Draft Phase I RCRA Facility Investigation Work Plan for SWMU 75 – Building 803, Task 03 Deliverable.

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 75 – Building 803* (Work Plan). Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a “Release Assessment” as described in EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A).

It does not appear that the proposed investigation will provide enough information to aid in the release determination. Building 803 contains access/manway doors in the floor that lead directly to Ensenda Honda. During the Phase I/II ECP investigation, investigators noted numerous stains on the floor and evidence of previous releases of waste oil and diesel fuel. In addition, as seen in Appendix A (Photographs of SWMU 75, Building 803), several cracks and holes exist in the concrete floor of the building. However, sampling at the outfall to the Ensenda Honda and along the access/manway that leads directly to the Ensenda Honda has not been proposed. It is suggested that these areas (i.e., potential migration pathways) be sampled as part of the release determination investigation.

Of further note, per TechLaw’s August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study (CMS) Work Plans for the NAPR site. The Appendix C, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002

- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)
- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
R. Sherfey/TL Central Files

**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 75 – BUILDING 803
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

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EPA Task Order No.	002
Contract No.	EP-W-07-018
TechLaw TOM	Andrew Dorn
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October 10, 2007

**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 75 – BUILDING 803
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 75 – Building 803* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. According to Section 1.B.3 of EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. Due to the complex local hydrology and hydrogeology, a thorough evaluation of site conditions and potential migration pathways including a flow potentiometric map should be provided in the Work Plan.
2. Section 2.1 (Current Site Conditions/Usage) states that Building 803 contains access/manway doors in the floor that lead directly to Ensenda Honda. During the Phase I/II ECP investigation, investigators noted numerous stains on the floor and evidence of previous releases of waste oil and diesel fuel. In addition, as seen in Appendix A (Photographs of SWMU 75, Building 803), several cracks and holes can be seen in the concrete floor of the building. As such, it is unclear why Section 3.0 (Scope of Investigation) states that, “. . . [I]t is unlikely that significant contamination could have migrated to the exterior environment to Ensenda Honda or vertically migrated to the groundwater within the site.” Revise the Work Plan to include sampling at the outfall to Ensenda Honda, along the access/manway that leads directly to Ensenda Honda, and the area immediately surrounding the access/manway to Ensenda Honda, or clarify why sampling is not necessary.
3. Section 4.4 (Nature and Extent of Contamination) of the Work Plan states that soil and groundwater analytical data will be screened against EPA Region 9 preliminary remediation goals (PRGs) and previously developed ecological screening values. However, Section 1.1 (Problem Definition and Performance Standards) of Appendix C [Quality Assurance Project Plan (QAPP)] identifies Puerto Rico Environmental Quality Board (PREQB) target levels and Region 9 PRGs as the screening criteria/performance standards to be utilized. The performance standards identified in the Work Plan and QAPP need to be consistent, and should be EPA-approved. Revise the Work Plan and QAPP so that the screening criteria/performance standards are the same. In addition, previously collected site-specific

data is currently screened to EPA Region 3 risk-based concentrations (RBCs). The data assessment/screening process needs to be consistent. Provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.

4. The screening criteria utilized for the Phase I/II ECP investigation wipe samples has not been provided in Section 2.2 (Previous Investigations) or Appendix B (Summary of Analytical Results from Phase II ECP Survey). It is unclear what these results were compared against. Other site generated data from the proposed investigation will be compared to EPA Region 9 PRGs or previously developed ecological screening values. Revise the Work Plan to clarify what the analytical results from the Phase I/II ECP investigation were compared against. The text references comparing the wipe samples to the Toxic Substance Control Act (TSCA) standard for residential lead-based paint dust. The relevancy of this criterion has not been established. The wipe samples are not representative of environmental conditions outside the structure. Revise the Work Plan to clearly indicate what standards will be used for future data generated and how the wipe data will be used to assess environmental conditions.
5. There is no figure showing the locations of the wipe samples with respect to the physical features of Building 803. A line drawing showing all sumps, cracks, entrances and exists, and any other physical features of the structure and the location of the wipe samples with respect to these features needs to be provided. Revise the Work Plan to include the figure with the requested information.
6. Based on Figure 3-1 (Proposed Sample Location Map), there are no samples proposed for the north side of Building 803. Revise the Work Plan to include sampling along the north side of the building or clarify why samples were not collected.
7. The Appendix C, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix C does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a. Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b. Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.
 - c. The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d. The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
 - e. The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March

2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix C should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

8. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix C QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
9. The Appendix C QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

1. **Section 3.0, Scope of Investigation, Page 3-1:** According to the first bullet point, "Five surface soil samples will be collected from six boring locations as shown on Figure 3-1." However, according to Figure 3-1 (Proposed Sample Location Map) and Table 3-1 (Summary of Sampling and Analytical Program), only five boring locations have been proposed. Revise the Work Plan to resolve this discrepancy.
2. **Section 3.1, Soil Sampling and Analysis Program, Page 3-1:** This section states that, "A boring log will be developed for each boring location." Revise the Work Plan to clarify that blow counts, lithology, water occurrence, flame ionization detector (FID)/ photo ionization detector (PID) reading, and miscellaneous observations will be recorded on the boring logs as soil sampling will be based on FID/PID, olfactory and visual screening results.



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October 10, 2007

REPA4R2-002-ID-035

Mr. Timothy Gordon
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866

Reference: EPA Contract No. EP-W-07-018; Task Order No. 002; Naval Activity Puerto Rico (NAPR); Corrective Action and Permit Support; Technical Review of the Draft Phase I RCRA Facility Investigation Work Plan for SWMU 76 – Building 2300, Task 03 Deliverable.

Dear Mr. Gordon:

TechLaw has completed a technical review of the *Draft Phase I RCRA Facility Investigation Work Plan SWMU 76 – Building 2300* (Work Plan). Per your direction, the focus of this review has been on the adequacy of the proposed investigations in determining whether or not a release is present at the site. In addition, the Work Plan was reviewed as a “Release Assessment” as described in EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A).

It appears that the proposed investigation will provide a significant amount of information to aid in the release determination. However, it does not appear that enough information has been provided and/or an adequate sampling and analysis program has been proposed to determine whether or not a release has occurred from the oil/water separator at Building 2300. It is suggested that details regarding groundwater flow directions and other potential migration pathways that may be associated with the oil/water separator at Building 2300 be provided.

The Work Plan indicates that surface water and sediment data exists within the vicinity of this solid waste management unit (SWMU) which could be used to assess conditions along the Ensenda Honda shoreline. This data for those locations shown on Figure 1-3 (Site Layout and Previous Surface Water/Sediment Sample Location Map) has not been included in the Work Plan and would be useful in assessing the adequacy of the proposed sediment sampling locations. Please note that TechLaw was unable to find this data on the NAPR Project Team Web Site.

Of further note, per TechLaw’s August 23, 2007, conversation with you, EPA also understands that the Navy has stated that the Work Plan will be implemented by a third party. Therefore, several important details such as the actual presumptive remedies, sampling and analytical standard operation procedures (SOPs), etc., cannot be added to the Work Plan until the actual party is selected to implement the Work Plan.

TechLaw found that the Quality Assurance Project Plan (QAPP) presented in this Work Plan was substantially similar to the QAPP presented in recently reviewed Corrective Measures Study

(CMS) Work Plans for the NAPR site. The Appendix C, NAPR Draft QAPP, dated August 31, 2007, was reviewed against the following:

- U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5), December 2002
- U.S. EPA Requirements for Quality Assurance Project Plans (QA/R-5), March 2001
- Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), March 2005
- Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006 (QA/G-4)
- Data Quality Assessment: Statistical Methods for Practitioners, February 2006 (EPA QA-G9R)
- Data Quality Assessment: A Reviewers Guide, February 2006 (EPA QA-G9S)

The current QAPP is inadequate. It is suggested that the QAPP be completely revised to include sufficient detail to meet the requirements of the UFP-QAPP guidance. Since the RFI Work Plan QAPP is identical to the QAPP included in the previous CMS Work Plans reviewed by TechLaw, the same comments from those reviews have been included.

This technical evaluation is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist EPA Region 2 and look forward to providing continued support. Please feel free to contact me at (212) 695-3600 or the TechLaw Task Order Manager, Andrew Dorn, at (312) 345-8963, with any questions.

Sincerely,

Mark Heaney

Mark Heaney
Program Manager

cc: P. Rosa, EPA Region 2
A. Dorn, TL TOM
R. Sherfey/TL Central Files

**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 76 – BUILDING 2300
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

Submitted to:

**U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866**

Submitted by:

**TechLaw, Inc.
One Penn Plaza, Suite 2509
New York, NY 10119**

EPA Task Order No.	002
Contract No.	EP-W-07-018
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October 10, 2007

**TECHNICAL REVIEW OF THE DRAFT PHASE I
RCRA FACILITY INVESTIGATION WORK PLAN
SWMU 76 – BUILDING 2300
DATED AUGUST 31, 2007**

**NAVAL ACTIVITY PUERTO RICO
CEIBA, PUERTO RICO
EPA ID NO. PR2170027203**

The following comments were generated based on review of the August 31, 2007, *Draft Phase I RCRA Facility Investigation Work Plan SWMU 76 – Building 2300* (Work Plan), Naval Activity Puerto Rico (NAPR) Ceiba, Puerto Rico.

GENERAL COMMENTS

1. The Navy has proposed using low-flow purging and sampling procedures to sample the temporary wells at solid waste management unit (SWMU) 76. These wells are reported to have 1-inch diameter inner well casings. While this is an acceptable procedure for extracting the sample, the usability of the data may be limited. It should be noted that the Region 2 Standard Operating Procedure (SOP) states that the low flow procedure is applicable to *monitoring wells that have an inner casing with a diameter of 2.0 inches or greater*. In addition, although not included in the Region 2 SOP, in order to generate data of acceptable quality to make “final” risk-based decisions, the low flow groundwater samples need to be collected from a properly constructed well that has been adequately developed.

The data collected from the proposed temporary wells at SWMU 76 will be “screening” type data. The results will indicate whether there “is” or “is not” contamination in the shallow aquifer. If the resulting data exceeds screening levels, it may be necessary to install properly constructed wells in order to make risk-based decisions on potential impacts to human health and the environment. Revise the Work Plan to allow for the installation of permanent wells if the “screening” level data shows releases to groundwater.

2. According to Section 1.B.3 of EPA’s May 1994 guidance “Final RCRA Corrective Action Plan” (OSWER Directive 9902.3-2A), a preliminary assessment and description of all potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality should be incorporated into the nature and extent of contamination discussion. However, the Work Plan does not provide the aforementioned information. Due to physical characteristics (i.e., estuarine wetlands, mangrove swamp), a thorough evaluation of site conditions and potential migration pathways including a flow potentiometric map should be provided in the Work Plan.
3. Section 4.4 (Nature and Extent of Contamination) of the Work Plan states that soil and groundwater analytical data will be screened against EPA Region 9 preliminary remediation goals (PRGs) and previously developed ecological screening values. In addition,

groundwater analytical data will be compared to Federal maximum contaminant levels (MCLs). However, Section 1.1 (Problem Definition and Performance Standards) of Appendix C [Quality Assurance Project Plan (QAPP)] identifies Puerto Rico Environmental Quality Board (PREQB) target levels and Region 9 PRGs as the screening criteria/performance standards to be utilized. The performance standards identified in the Work Plan and QAPP need to be consistent, and should be EPA-approved. Revise the Work Plan and QAPP so that the screening criteria/performance standards are the same. In addition, previously collected site-specific data is currently screened to EPA Region 3 risk-based concentrations (RBCs). The data assessment/screening process needs to be consistent. Provide a discussion of the rationale for this change in screening values and how it impacts screening of previous samples.

4. According to Section 1.2 (Site Location and History), liquid wastes from Building 2300 typically exited the building through a trench drain and associated oil/water separator or the ground surface immediately outside the building. Based on the sampling locations presented in Section 3.0 (Scope of Investigation), only one sample has been proposed in the vicinity of the oil/water separator. It is unclear if this one sample will be adequate to assess both the trench drain and the oil/water separator. Revise the Work Plan to include the location of the trench drain and oil/water separator on the figures and provide the rationale for why one sampling location is adequate in the vicinity of this potential release source. It should be noted that the direction of groundwater has not been identified at SWMU 76. Furthermore, this sample is to be field located near the oil water separator. Revise the Work Plan to include the criteria for sample location selection.
5. The Appendix C, NAPR Draft Quality Assurance Project Plan (QAPP), dated August 31, 2007, has been developed in accordance with EPA guidelines (USEPA, 2001, Environmental Protection Agency [EPA] Requirements for Quality Assurance Project Plans, QA/R-5). However, the information presented in the QAPP in Appendix C does not meet the majority of the specific requirements provided in QA/R-5. Some examples include the following:
 - a. Per Element B5 in QA/R-5, the QAPP did not provide laboratory and field QC methods and procedures, acceptance criteria, and corrective action.
 - b. Per QA/R-5, examples of all forms, labels and checklists should be included as part of the QAPP. These are not all provided.
 - c. The QAPP does not provide sufficient discussion of data management procedures per Element A9 of QA/R-5.
 - d. The QAPP lists the minimum information to be placed on the bottle labels. This list does not include the analysis or preservatives.
 - e. The QAPP discusses the data validation process, but does not discuss how data to be validated will be selected, the percentage of data to be validated, if all data will be fully validated, or if differing levels of validation will be performed.

EPA Region 2's current policy is that QAPPs should be developed in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), dated March 2005. The UFP-QAPP was developed using the same standard as that used for development of QA/R-5. QAPPs developed in accordance with UFP-QAPP will meet the requirements of

QA/R-5. However, the information presented in this QAPP is lacking in sufficient detail to meet the requirements of the UFP-QAPP or QA/R-5. The QAPP in Appendix C should be completely revised to include sufficient detail in order to meet the requirements of UFP-QAPP guidance.

6. The Data Quality Objectives (DQOs) have not been adequately defined for the Appendix C QAPP. Until a complete set of DQOs is provided, the adequacy of the QAPP and Work Plan cannot be fully evaluated. Further, when revised DQOs are provided, the DQOs need to reflect the proposed activities of the revised Work Plan. Both the Work Plan DQOs and QAPP will need to be reviewed to ensure the proposed activities of the Work Plan correlate with the revised DQOs. In revising the QAPP, provide the completed seven step DQOs and ensure they are consistent with the Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 (QA/G-4).
7. The Appendix C QAPP indicates that a laboratory has not been selected. This, combined with the incomplete DQOs, severely limits the usefulness of the QAPP. For example, laboratory specific acceptance limits will change the precision, accuracy and completeness values on Table 3-2 of the Work Plan. In revising the QAPP, include laboratory specific information for QC samples, calibration, preventative maintenance, audits, corrective action, sample analysis and preparation, etc. In addition, each laboratory's standard reporting list (e.g., for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals) may vary. Ensure that the analyte lists in the QAPP are provided to the laboratory so that the proper contaminants of concern (COCs) are reported.

SPECIFIC COMMENTS

1. **Section 3.1, Soil and Sediment Sampling and Analysis Program, Page 3-1:** The second sentence of this section states that, "Sediment samples will be collected near the Ensenda Honda shoreline adjacent to the site." However, Figure 3-1 (Proposed Sample Location Map) does not show the locations of the proposed sediment samples and Table 3-1 (Summary of Sampling and Analytical Program) does not identify sediment samples as part of the sampling program. Revise the Work Plan to resolve this discrepancy. Furthermore, the Work Plan also indicates that sediment data exists from the vicinity of this SWMU which could be used to assess conditions along the Ensenda Honda shoreline. This data has not been included in the Work Plan and would be useful in assessing the adequacy of the proposed sediment sampling locations. Revise the Work Plan to include this data and applicable screening criteria for this data in relationship to this SWMU.
2. **Section 3.1, Soil and Sediment Sampling and Analysis Program, Page 3-1:** The second sentence of the second paragraph states that the seven surface soil sample locations at SWMU 76 are positioned to the north, south, and west of Building 2300. However, based on Figure 3-1 (Proposed Sample Location Map), samples are located to the northeast, southwest and south of Building 2300. Revise the Work Plan to clarify the locations of the surface soil sample locations relative to Building 2300. In addition, clarify why samples were not proposed for the northwest and southeast sides of Building 2300.

3. **Section 3.1, Soil Sampling and Analysis Program, Page 3-1:** This section states that, “A boring log will be prepared indicating blow counts, lithology, water occurrence, and miscellaneous observations.” Revise the Work Plan to clarify that flame ionization detector (FID)/ photo ionization detector (PID) reading will also be recorded on the boring logs as soil sampling will be based on FID/PID screening results.

4. **Section 3.2, Monitoring Well Installation Program, Page 3-2:** The second paragraph indicates that the temporary well will be installed at location 76-SB01. This information was omitted from the last bullet in Section 3.0 (Scope of Investigation). Please include this information in Section 3.0. Section 3.2 then goes on to indicate that sampling location 76-SB01 is located downgradient of the oil/water separator. Sample location 75-SB01 does not appear to be in the vicinity of the oil/water separator based on the features shown on Figure 3-1. Revise the Work Plan to resolve this discrepancy.