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MCRD PARRIS ISLAND
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U S NAVY RESPONSES TO SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL COMMENTS ON SITE INSPECTION/CONFIRMATORY SAMPLING REPORT FOR SITES 4, 5, 7, 9, 13, 16, 27 AND 35 MCRD PARRIS ISLAND SC
5/2/2005
NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION

SUMMARY OF SCDHEC COMMENTS AND RESPONSES TO DATE FOR SI/CS SITES AT MCRD PARRIS ISLAND

MAY 2, 2005

Comments from : **Mr. Jerry Stamps, Engineering Associate** **Hazardous Waste Permitting Section** **Division of Hazardous and Infectious Waste Management** **Bureau of Land and Waste Management**	SCDHEC June 23, 2003.	Navy/Marines May 2004 Based on meeting minutes since August 2003.
1. **General Comment:** A comparison to Industrial-Use Soil PRGs is presented for Sites 5, 9, 13C, 27, and 35. The Department does not agree with the approach of assessing sites to industrial standards. According to the Department's Bureau of Land and Waste Management Assessment and Remediation Criteria, all sites must be assessed to residential standards (i.e. Residential-Use Soil PRGs). This document was developed as a means of ensuring a consistent methodology concerning the assessment of corrective action sites within South Carolina. Consequently, please remove comparisons to industrial standards from this document. **Response:** All sites were assessed to residential standards. Sites under a current industrial setting were also compared to industrial standards as well as residential standards. Residential development of these areas is not currently under consideration by the Depot and is not likely to be considered in the future. Consequently, comparison to industrial standards was deemed appropriate. Furthermore, this practice is consistent with the internal SCDHEC memorandum referenced by the reviewer SCDHEC, 1995. On page 2 of the memorandum, it is stated: *"Inherent in the risk assessment process is an assumption of future exposure scenarios. The exposure scenario assumptions may be based on a future residential use or continued industrial use of the property in question."* Additionally, on page 3 of the SCDHEC internal memorandum:	MCRD should understand that the intent of the comment was to point out the fact that the sites were not fully delineated during the CS/SI phase. As outlined in the Bureau's Assessment and Remediation Criteria, the MCRD can choose to delineate the SWMUs based on residential screening levels (PRGs) or approved background levels. After fully delineating the site, a risk assessment (qualitative and/or quantitative) can be conducted to account for various exposure scenarios. Once COCs are identified, the MCRD can present weight of evidence to support their recommended final remedy. However, it is important to note that sites where an industrial level remediation is selected will require land use controls to assure that the exposure assumptions used to select the remedy remain consistent for the life of the remedy It is important that the assessment is complete prior to conducting a risk assessment or recommending a final remedy for a site. During or after completion of the risk assessment it is appropriate to consider land use controls as a tool in making a risk management decision for a less than residential clean up. Certain exceptions have been made to allow a facility to assess a site to industrial screening levels (PRGs). This scenario was appropriate due to the fact that the area was historically heavily industrialized, the site is expected to remain industrial in the future	As stated in Section 1.2 of the SI/CS Report, the purpose of the SI/CS was to determine whether contaminant releases have occurred and whether further investigation or action is required, versus full delineation. SCHDEC has objected to comparison of site characterization sample results to industrial PRGs, and Navy/MCRD has agreed to drop the comparison in a revised document. Remaining comparisons to residential PRGs, SSLs for migration to groundwater (DAF=1), and EPA Region 4 ecologic screening criteria for all sites, and comparisons to site background, SSLs for migration to air, for most sites, will remain.

"The Bureau will also allow remediation to industrial risk-based concentrations provided appropriate institutional controls are applied to the site. Institutional controls are necessary for remediation to industrial risk-based concentrations to ensure the industrial exposure assumptions remain applicable to the site." As a result, analytical data from Sites 5 and 9 and SWMUs 27 and 35 analytical data were additionally compared to industrial criteria. Please note that these sample results indicate a "worst-case scenario" because a biased sampling approach was used. Under a biased sampling approach (commonly used for SI and RFA sampling activities), samples are collected in areas where contamination is likely to be the highest (e.g., source areas and migration pathways). The comparison of analytical results indicates that even under these "worst-case scenarios," minimal risk to industrial receptors are present at Sites 5 and 9 and SWMUs 27 and 35.	due to past contamination, the site was within a larger area of contamination where a residential use restriction had already been placed. In this situation, industrial use restrictions are inherent during investigation and as a portion of the final remedy. Due to the environmental setting, and relatively low levels of contamination throughout the MCRD, this type of exception is not applicable. Therefore, as mentioned above, the sites must be assessed to residential PRGs or an approved background level prior to making any determination regarding a site remedy. The response to this comment and all others should be revised accordingly.	
2. **General:** The purpose of Confirmatory Sampling (CS) is to determine the presence or absence of contamination. The Department believes it to be premature to select land use controls based upon limited sampling as provided in a CS. First of all, contamination detected above residential standards during the CS stage indicates the need to proceed to an RCRA Facilities Investigation (RFI). Secondly, land use controls are necessary for areas of contamination in excess of the acceptable risk range assuming a residential scenario. With these two points in mind, an RFI is necessary to fully delineate the nature and extent of contamination prior to the selection of land use controls as a part of the final remedy in order to determine the extent of the property requiring land use controls. Consequently, those specific sites for which land use controls were proposed must proceed to an RFI. Pending the results of the RFI, it may be determined that the risk posed by these sites is within the acceptable risk range and land use controls will not be necessary. Furthermore, the selection of land use controls is to be conducted in conjunction with the selection of the final remedy. By selecting land use controls at this stage of the corrective action process, the land use controls themselves become the final remedy. This is contrary to	**Response to General Comment #2** The Department does not concur with the rationale that the recommended land use controls were not intended to serve as a final remedy for the site. However, the Department concurs that additional investigation is needed based on the results from the CS/SI sampling at SWMUs 4, 5, 7, 9, 16, 13, and soil removal at SWMU 27. The Department interprets "activities in support of clean closure" to be recommendation of further investigation. • Site/SWMU 4- no analytical samples were taken around Hummock, which is indicated as a potential location of the fire-training pit. Though a reasonable approach for verifying any potential gross contamination, the lack of visual evidence is not sufficient evidence to justify no samples. Please indicate why no samples were analyzed from this area to assess potential	The intent of 'activities in support of clean closure' is site-specific and is described in detail in the bullet list in the original Response in column 1 of this table. • Site/SWMU 4 - Per the workplan, Appendix C relates results of a test pitting investigation and identifies locations for two soil samples which were collected in the next phase of field work. Appendix C also described that the depth horizons for the samples would be determined by PID. There was no special provision for surface soil sampling.

the intent of the land use controls as outlined in EPA Region 4 policy Assuring Land Use Controls at Federal Facilities, dated April 21, 1998, which states "We continue to regard LUCs primarily as components of, or enhancements to, remedies which employ treatment that reduces toxicity, mobility, or volume as a principal element." One must also consider that by selecting the land use controls at this stage (i.e., land use controls as the final remedy), the public participation in the selection of the final remedy is circumvented. **Response:** The land-use controls suggested for Sites 5 and 9 and SWMUs 27 and 35 were not intended to be a final remedy. As stated in the conclusions for these sites, reevaluation of the sites/SWMUs would be considered in the event that residential development of the areas were to be considered. However, based on comments from U.S. EPA and other regulatory agencies, the Navy/Depot has revised the initial recommendations of the SI sites. The Navy recommends activities to support clean closure at Sites 4, 7, 9/16, 13C, and 27 within the next 2 years, an RI/RFI for Site 5, and no action/no further action at this time at SWMU 35. The recommendations are further detailed as follows. • Site 4 – No action/no further action is recommended for both soil and groundwater. Organic compounds were not detected in subsurface soil and groundwater. Additionally, detected inorganic compounds were below or just above established MCRD Parris Island soil background values or below federal MCLs. Consequently, clean closure for this site is sought. • Site 5 – Due to the potential presence of wastes in the subsurface portion of the site, an RI/RFI is recommended to determine whether wastes are present. • Site 7 – To support clean closure of the site, an Extended SI is recommended for groundwater. Extended SI activities would consist of installation and sampling of one permanent monitoring well 50 feet downgradient of the former fire training pit. Groundwater sampling parameters would consist of VOCs, SVOCs, and inorganics. Soil removal is recommended. • Site 9/Site 16 – To support clean closure of the site, an Extended SI followed by a Focused FS is recommended. Extended SI activities would consist of : - Sampling of soils underneath the concrete slab south of Building 895 where	contamination. The background data used to eliminate COPCs was not approved by the Department for use at these sites. Please refer to Susan Byrd's evaluation of the response to risk assessment comments for further detail. Additionally, there is not rationale provided for not analyzing surface soil samples. • Site/SWMU 5- The Department agrees with the recommendation for an RI/RFI. However, the discussions of industrial PRGs should be removed since they are not relevant to the decision to further investigate. • Site/SWMU 7- The Department agrees with the recommendation for an extended CS/SI. This investigation should include a soils investigation to delineate the nature and extent of contamination. Additionally, the fate of the piping should be determined in the investigation. • Site 13C/SWMU 13- The Department agrees with the recommendation for an extended CS/SI. However, the discussions of industrial PRGs should be removed since they are not relevant to the decision to further investigate. • SWMU 27- In order for the Department to concur with a soil removal at this site, additional information is needed. The nature and extent of contamination (vertical and horizontal) should be delineated prior to or during a soil removal. The environmental setting at the site needs clarification. Specifically, a map detailing the paved verses non-paved areas should be provided. Additionally, please clarify why only a portion of the parade deck was investigated during the CS/SI. • SWMU 35- The Department does not	• Site/SWMU 5 – discussion of industrial PRGs will be removed. • Site/SWMU 7 – An extended CS/SI has occurred and is currently being interpreted. During the workplan approvals for the additional field work, MCRD and Navy agreed to work with the Partnering Team to address the buried pipe prior to requesting concurrence with a final corrective action. • Site 13C/SWMU 13 – An extended CS/SI has occurred and is currently being interpreted. The discussion of industrial PRGs will be removed. • SWMU 27 – Additional nature and extent data will be collected during the soil removal. A map identifying paved/unpaved areas will be provided. Finally, the workplan specified three soil samples to be collected based on locations of historic transformer storage, versus an investigation to include representation of all parade deck

paints were formerly stored. - Installation of three piezometers to determine groundwater flow direction. - Installation and sampling of one monitoring well 50 feet downgradient of the site. Sampling would be performed for VOC, SVOC, pesticide, and inorganic analysis. • Site 13C – To support clean closure of the site, an Extended SI is recommended. Extended SI sampling activities would consist of installation of permanent monitoring wells (three total) in the vicinity of temporary well locations PAI-04-GW-01, PAI-04-GW-02, and PAI-13C-GW-02. The monitoring wells would be sampled for inorganics based on exceedances observed from previous SI sampling. Additionally, based on discussions during the December 2001 Partnering Team meeting, four surface water samples will be collected from Ballast Creek adjacent to the site. Two samples will be collected during high tide to represent potential surface water inflow into the monitoring wells and two samples will be collected during low tide to represent potential groundwater impacts to the surface water. The samples will be composites, collected over an approximate 2-hour period. The samples will be analyzed for inorganics. • SWMU 27 – Soil removal is recommended. Public participation with this action would be solicited through the publishing of a Proposed Plan followed by a public comment period. • SWMU 35 – No action/no further action is recommended at this time. SWMU 35 is an active RCRA unit and soil will be addressed upon final closure of the SWMU. (We note that EPA has recently already indicated that they have a different recollection of the conclusion developed for this site).	agree with the recommendation for no further action at this site. Since the site is an active DRMO there is potential for additional releases based on current operations. Therefore, the Department cannot make a no further action determination at this time. Typically, the Department defers a final decision on similar sites until the site operations cease, and the potential for additional release no longer exists. At that time the nature and extent of contamination is determined.	areas. • SWMU 35 – MCRD and Navy will defer recommendation on this site until site operations cease. EPA has collected additional sampling data that will be incorporated into the report revision.
3. **Comment: General.** As stated in comment #2, the detection of contaminants above residential standards necessitates the need for an RFI. The Department has determined that an RFI is necessary for sites 5, 9, 27, and 35 in order to define the nature and extent of contamination. The Department is willing to discuss this at the next Tier I Team Meeting. **Response:** As stated in the response to comment 2, the Navy/Depot has revised the recommendations of the SI sites. The Navy recommends activities to support clean closure at	**Response to General Comment 3** See evaluation to General Comment #2	See response to General Comment #2.

	Site 9 and SWMU 27 within the next 2 years, an RI/RFI for Site 5, and no action/no further action at this time at SWMU 35.		
4.	**Comment: Figure 4-2:** Section 4.1 references Figure 4-2 to demonstrate the progression of fill activities at Site 5. However, such progression is not clearly identified in said figure. Please clarify. **Response:** Agreed. The quality of the original photographs distinguishes the progression of fill activities; however, this progression is not demonstrated as clearly in the pictures after reproduction. The next to the last sentence of the first paragraph of Section 4.1 will be deleted. Additionally, Figure 4-2 will be removed from the report.	**Response to Comment #4** See evaluation to General Comment #2 regarding SWMU 7. Though a magnetic survey was not conducted to determine the location of the pipes, additional information is needed. Since the pipes were a part of the fire training activities, and the MCRD has not provided evidence that the piping has been removed, and no longer serves as a potential source of contamination, the extended CS/SI should investigate the piping.	See response to General Comment #2.
5.	**Comment: Section 5.1, Page 5-1, 3rd paragraph**. Please describe if a magnetic survey was conducted to determine the location of the pipes (if they remain underground) to ensure that the correct area was investigated. **Response:** A magnetic survey was not conducted. The location of the Page Field Fire Training Pit was identified through historical aerial photographs and confirmed through an interview with a fire fighter who trained in the area in the early 1970s. This information will be added to Section 5.1.		
6.	**Comment:** Section 6.7, Page 6-10. This section is recommending a pathforward for Site 16 without presenting data to support this recommendation. If a recommendation is to be made, please incorporate the supporting data. **Response:** Site 16 was investigated in 1988 during the Remedial Investigation Verification Step conducted by McClelland Engineers. Information from this report was summarized in the text of Section 6.0 as follows: • Site Background – Included in Section 6.1 • RI VS Sampling Results and Recommendation – Section 6.2.2 • Sampling locations - Figure 6-1. • Subsurface soil boring logs – Appendix A However, the results of the Site 16 sampling will be also added as a table similar in format as Table 6-3. Furthermore, raw analytical data will be added to Appendix A.		

7. **Comment:** Page 6-10, footnote, typographical error. Please revise the phrase "no-further" to "no-further action". **Response:** Agreed.		
8. **Comment: Section 9.6.1.2, Page 9-6, 2nd paragraph**. This section states that, "phthalates are ubiquitous in the environment due to plastic wastes". If this were true, the Department would observe a more widespread phthalate problem throughout the corrective action sites within the state of South Carolina. Consequently, the Department does not agree with the statement in question. Furthermore, though the Department recognizes that phthalates may be detected due to sample handling procedures and laboratory analysis, such cases must be proved. **Response:** Phthalates are a man-made chemical that are used to help make plastics soft and flexible and can be found in common products such as shower curtains, raincoats, bowls, car interiors, vinyl fabrics, floor tiles. For the one phthalate (di-N-butyl phthalate) that exceeded a screening criterion at SWMU 35, specific uses include use in insect repellant, aftershave lotion, hair products, and food packaging. Due to their numerous commercial uses, phthalates are widespread in the environment (ATSDR, 1992). Please note that the recommendations for this site are being modified to reflect the current active status.	**Response to Comment #8** The Department does not see the relevance of the quoted statement from the report nor the explanation provided. Therefore, it is recommended that the statement be removed from the document. Additionally, see evaluation of General Comment #2 regarding SWMU 35.	The subject statement will be removed from the document. EPA has collected some additional sampling data that will be incorporated into the report revision.
9. **Comment: Section 9.1, Page 9-1.** Please state what types of materials are stored at the DRMO salvage yard during current operations. **Response:** The following text will be added to this section. "The type of wastes that may be accumulated at the site consist of paint, pesticides, batteries, fuels, used oils, transformers, capacitors, and other similar wastes from MCRD Parris Island. "		
Comments from: Susan Byrd, SCDHEC Risk Assessor		
1. **Comment**: The Confirmatory Sampling Report presents Marine Corps Recruit Depot (MCRD) Parris Island soil background values for inorganic analytes as screening criteria. The source of these background values is the Tetra Tech NUS Inc. (1999) MCRD Parris Island Site 3 Remedial Investigation (RI)/RCRA Facilities Investigation (RFI). Please provide information regarding the locations of these samples and a description of the soil type and sample type (i.e., surface soil, subsurface soil, or sediment). Since MCRD currently does not have an	Original Comments 1 and 6 request additional background information. The response to comments states that the information will be attached as Table 4-1 and Appendix H. No attachments were included in the response to	The additional information will be submitted. The information is the same as was provided and accepted as Appendix H to help conclude the November 2004 RI/RFI for Site/SWMU 45.

approved background study, the samples used for background comparison may not be of a comparable nature to the samples collected at SWMU 53. **Response:** Table 4-1 – Summary of Detected Background Concentrations and Appendix A-12 – Background Sample Description, Locations, and Supporting Collection Data - from the RFI/RI for Site/SWMU 3 are attached to this letter and will be packaged as an appendix to the SI/CS Report. In addition, Appendix H – Technical Memorandum for Determination of Typical DDT Application Rates from the RI/RFI for Site/SWMU 1 and Appendix F-4 – Technical Memorandum for Determination of Typical Facility Pesticide Concentrations from the Site/SWMU 3 is also attached to this letter and will be included in the previously indicated SI/CS Report appendix.	comments. Before the comment resolution can be completed, the Department requests that the additional information be submitted.	
2. **Comment:** It is not appropriate to use EPA Region 9 Industrial PRGs in the screening stage of corrective action in order to eliminate Chemicals of Potential Concerns (COPCs). **Response:** Agreed – based on Partnering Team agreement at the November 11-12 meeting. However, the Navy did indicate a desire to continue to use industrial screening values for illustrative purposes. The team did not object.		
SWMU 4 – Dredge Spoils Area Fire Training Pit: 3. **Comment:** 3.7 Conclusions/Recommendations, pp. 3-10 Background values from SWMU 3 may not be appropriate to use for SWMU 4. Please provide additional information to justify that a valid comparison can be made (see Comment #1). **Response:** See response to General Comment 1.		
SWMU 5 – Former Paint Shop Disposal Area: 4. **Comment:** 6.1 Surface Soil, pp. 4-4 It is not appropriate to use industrial screening values (see Comment #2). **Response:** See response to General Comment 2.		
5. **Comment:** 4.6.1.1 VOCs, pp. 4-5 Detected concentrations of VOCs are considered to be laboratory contaminants, however, EPA guidance on common laboratory contaminants is not used to justify this conclusion. Please revise the report to include applicable information, as described in Risk Assessment Guidance for Superfund (RAGS), to defend this conclusion, including concentration requirements in method blanks. Please revise the text accordingly. **Response:** The text will be revised to indicate that the subject VOCs 'may' be laboratory contaminants. The confirmatory evaluation proposed by SCDHEC is beyond the scope of this document. The conclusion drawn in this section of the document will be revised to state 'Because of the low concentrations and low rate of occurrence of VOCs observed in surface soils at this site, and because VOCs were not detected in adjacent sediment, VOCs in soil will not be considered further.' Note that the site is being retained for an RFI/RI.	Original Comments 5, 11 and 18 request additional information prior to justifying that VOCs originated as laboratory contaminants. According to EPA guidance, the level of the common lab contaminant detected in the sample should be compared to the level detected in the blank sample. If the blank contains detectable levels of common lab contaminants, then the sample results should be considered positive only if the concentrations in the sample exceed 10 times the maximum amount detected in any blank. If the	SMWU 5 is being retained for an RI/RFI. The EPA's '5x and 10x rule will be used in that investigation to make determinations about laboratory contamination. For the revised SI/CS report, the text will be revised to state that the subject VOCs 'may' be laboratory contaminants.

		blank contains one or more compounds that are not considered common lab contaminants, then the results should be considered positive only if the compound in the site sample exceeds five times the maximum amount detected in any blank. Please include laboratory blank information in relationship to EPA's "5x and 10x rule".	
6.	**Comment:** 4.6.1.3 Pesticides/PCBs, pp. 4-7 The text states that: "Because pesticide concentrations are consistent with typical concentrations found throughout MCRD Parris Island related to prior base-wide pesticide application, pesticides in soil will not be considered further". The Department does not agree with this conclusion. No "typical concentrations related to prior base-wide pesticide application" are given or referenced, other than the SWMU 3 RFI. In order to justify a base-wide pesticide application exemption, additional data needs to be presented, including records of types of pesticides used, dates of use, storage, and application rates. Please revise the text accordingly. **Response:** See Response to General Comment 1.	Original Comments 1 and 6 request additional background information. The response to comments states that the information will be attached as Table 4-1 and Appendix H. No attachments were included in the response to comments. Before the comment resolution can be completed, the Department requests that the additional information be submitted.	The additional information will be submitted. The information is the same as was provided and accepted as Appendix H to help conclude the November 2004 RI/RFI for Site/SWMU 45.
7.	**Comment:** 4.6.1.4 Inorganics, pp. 4-7 A statement is made that: "Because Site 5 is located in an industrial area and only minor exceedances of industrial-use soil PRGs were observed, inorganics in soil will not be considered further for human health purposes". Industrial PRGs should not be used for screening (see Comment #1). Please refrain from using qualitative terms like "only minor exceedances" in the future. The Department does not agree with this conclusion. Please revise the text accordingly. **Response:** The subject sentence will be deleted from the document.		
8.	**Comment:** 4.7 Conclusions/Recommendations, pp. 4-10 The text states: "Under current industrial conditions, chemicals in the soil and sediment at Site 5 only pose a minor threat to human health". The Department does not understand the intent of this statement. If an industrial cleanup is intended for this SWMU, it must be taken through the Corrective Measures Study (CMS) phase, with Land Use Controls (LUCs) as part of the final remedy. Please explain the intent of this statement. **Response:** The statement can be deleted. The Partnering Team previously agreed that an RFI/RI is required for this site.		
SWMU 7 – Page Field Fire Training Pit:			
9.	**Comment:** 5.6.1 Subsurface Soil, pp. 5-6 The Department does not agree with taking the average concentration of an initial and duplicate sample and using the average value for screening purposes. Please revise the text accordingly. **Response:** The sentence will be revised as shown: These concentrations exceed chromium's soil to groundwater value of 2 mg/kg and ESV of 0.4 mg/kg; however the ~~average~~		

~~concentration of this sample (6.1 mg/kg) is~~ results for this sample and its duplicate (6.3 mg/kg and 5.9 mg/kg) are each approximately equal to the site background concentration of 6.2 mg/kg.		
10. **Comment:** 5.6.2 Groundwater, pp. 5-8 Please refrain from making qualitative statements like "few inorganic analytes exceeded human health screening criteria" in the future. This is not sufficient justification for not considering inorganics in groundwater. Please revise the text accordingly. **Response:** The conclusion drawn in this section of the document will be revised to state 'Because of the low concentrations and low rate of occurrence of inorganics observed in groundwater at this site, and because concentrations did not exceed ESVs, organics in groundwater will not be considered further.' Note that the site is being retained for an extended SI including installation and sampling of an additional permanent monitoring well.		
SWMU 8 – Paint Waste Storage Area and SWMU 16 – Pesticide Rinsate Disposal Area: **11.** **Comment:** 6.6.1.1 VOCs, pp. 6-6 Chloroform and carbon tetrachloride are concluded to be laboratory contaminants but EPA guidance for determining common laboratory contaminants is not followed to justify this conclusion (see Comment #5). The Department cannot agree with this conclusion as stated. Please revise the text accordingly. **Response:** The text will be revised to indicate that the subject VOCs 'may' be laboratory contaminants. The confirmatory evaluation proposed by SCDHEC is beyond the scope of this document. The conclusion drawn in this section of the document will be revised to state 'VOCs were detected at low level concentrations in soil and were not detected in Site 9 groundwater; consequently VOCs in soil will not be considered further.' Note that the site is being retained for excavation.	Original Comments 5, 11 and 18 request additional information prior to justifying that VOCs originated as laboratory contaminants. According to EPA guidance, the level of the common lab contaminant detected in the sample should be compared to the level detected in the blank sample. If the blank contains detectable levels of common lab contaminants, then the sample results should be considered positive only if the concentrations in the sample exceed 10 times the maximum amount detected in any blank. If the blank contains one or more compounds that are not considered common lab contaminants, then the results should be considered positive only if the compound in the site sample exceeds five times the maximum amount detected in any blank. Please include laboratory blank information in relationship to EPA's "5x and 10x rule".	Site 9 is being retained for excavation. The EPA's '5x and 10x rule will be used in the confirmation report following that action to make determinations about laboratory contamination. For the revised SI/CS report, the text will be revised to state that the subject VOCs 'may' be laboratory contaminants.
12. **Comment:** 6.6.1.2 SVOCs, pp. 6-7 The text states: "Runoff from Boki and Atsugi Street are a likely source of PAHs at Site 9". The Department does not concur with this conclusion. Not enough information is provided regarding control sampling and anthropogenic background to justify this decision. PAHs should be retained in the RFI. Please revise the text accordingly. **Response:** In the text cited by SCDHEC, 'likely' will be replaced with 'possible'. A confirmatory evaluation suggested by SCDHEC is beyond the scope of this document. The conclusion for this site already proposes excavation, as previously agreed by the Partnering Team. Excavation will be evaluated in a Focused Feasibility Study. For whatever active		

	remedy is ultimately selected, confirmation sampling, including PAHs, will be necessary.		
13.	**Comment:** 6.6.1.3 Pesticides, pp. 6-8 Do not use industrial PRGs for screening. Revise text accordingly. Pesticides and a PCB exceeded residential PRGs and ESVs, therefore, these chemicals must be taken through the RFI phase. **Response:** The discussion already includes comparison to both residential and industrial PRGs, and no potential COPCs are eliminated based on comparison to industrial values. The conclusion for this site already proposes excavation, as previously agreed by the Partnering Team. Excavation will be evaluated in a Focused Feasibility Study. For whatever active remedy is ultimately selected, confirmation sampling, including PAHs and pesticides, will be necessary.		
14.	**Comment:** 6.6.1.4 Inorganics, pp. 6-9 Please refrain from using qualitative statements like "given... minor exceedances of industrial-use human health screening criterion, inorganics will not be considered further for soil" for justifying cleanup decisions. The department does not concur with screening out chemicals that exceed residential screening criteria or ESVs. Please revise text accordingly. **Response:** The sentence cited by SCDHEC will be revised as follows: 'Inorganics will not be considered further for soil.' Regarding SCDHEC's concern about screening out inorganics, the conclusion for this site already proposes excavation, as previously agreed by the Partnering Team. Excavation will be evaluated in a Focused Feasibility Study. This remedy would be anticipated to address the low concentration inorganics.		
15.	**Comment:** 6.7 Conclusions/Recommendations, pp. 6-10 The Department does not agree with the decision to screen out contaminants based on industrial PRGs. Please revise text accordingly. **Response:** Section 6.7 does not discuss the screening-out of contaminants. The conclusion for this site already proposes excavation, as previously agreed by the Partnering Team. Excavation will be evaluated in a Focused Feasibility Study.		
16.	**Comment:** 7.6.1 Surface Soil, pp. 7-7 Do not use industrial PRGs for screening. Revise the text accordingly. **Response:** The discussion already includes comparison to both residential and industrial PRGs, and no potential COPCs are eliminated based on comparison to industrial values. The conclusion for this site already proposes groundwater and surface water sampling, and sediment sampling, as previously agreed by the Partnering Team.		
17.	**Comment:** 8.6 SI/CS and Historic Analytical Results, pp. 8-3 Do not use industrial PRGs for screening. Revise the text accordingly. **Response:** The discussion already includes comparison to both residential and industrial PRGs, and only two detections of BaP are indicated as exceeding a residential use PRG while being below the industrial PRG. However, PAH detections at this site are already identified as likely attributable to asphalt, and this is the reason provided for screening out PAHs. The conclusion for this site already proposes soil excavation, as previously agreed by the Partnering Team.		
18.	**Comment:** 8.6.1 VOCs, pp. 8-4 Chloroform and carbon tetrachloride are concluded to be laboratory contaminants but EPA guidance for determining common laboratory contaminants is not followed in order to justify this conclusion (see Comment #5). The Department cannot agree with this conclusion as stated. Please revise the text accordingly.	Original Comments 5, 11 and 18 request additional information prior to justifying that VOCs originated as laboratory contaminants. According to EPA guidance, the level of the common	SWMU 27 is being retained for excavation. The EPA's '5x and 10x rule will be used in the confirmation report following that action to make

	Response: The text will be revised to indicate that the subject VOCs 'may' be laboratory contaminants. The confirmatory evaluation proposed by SCDHEC is beyond the scope of this document. The conclusion drawn in this section of the document will be revised to state 'Because of the low concentrations and low rate of occurrence of VOCs observed in soils at this site, VOCs in soil will not be considered further.' Note that the site is already being retained for excavation by prior agreement of the Partnering Team.	lab contaminant detected in the sample should be compared to the level detected in the blank sample. If the blank contains detectable levels of common lab contaminants, then the sample results should be considered positive only if the concentrations in the sample exceed 10 times the maximum amount detected in any blank. If the blank contains one or more compounds that are not considered common lab contaminants, then the results should be considered positive only if the compound in the site sample exceeds five times the maximum amount detected in any blank. Please include laboratory blank information in relationship to EPA's "5x and 10x rule".	determinations about laboratory contamination. For the revised SI/CS report, the text will be revised to state that the subject VOCs 'may' be laboratory contaminants.
19.	**Comment:** 8.6.2 SVOCs, pp. 8-4 Detections of SVOCs that were above residential PRGs, SSLs, and ESVs cannot be dismissed and must be retained in an RFI. Please revise the text accordingly. **Response:** PAH detections at this site are already identified as likely attributable to asphalt, and this is the reason provided for screening out PAHs. The conclusion for this site already proposes soil excavation, as previously agreed by the Partnering Team.		
20.	**Comment:** 8.6.3 Pesticides/PCBs, pp. 8-6 The text concludes that, because pesticide concentrations are consistent with typical concentrations found throughout MCRD Parris Island related to base-wide pesticide application, pesticides in soil will not be considered further. The Department does not agree with this conclusion. No "typical concentrations related to prior base-wide pesticide application" are given or referenced, other than the SWMU 3 RFI. In order to justify a base-wide pesticide application exemption, additional data needs to be presented, including records of types of pesticides used, dates of use, storage, and application rates. Revise the text accordingly. **Response:** See Response to General Comment 1.		
21.	**Comment:** 8.6.4 Inorganics, pp. 8-6 The Department does not agree with taking the average concentrations and using the average value for screening purposes. Also, the Department does not understand the significance of chemicals being detected "only 3 and 1.9 times greater than established soil background concentrations". See Comment #1 regarding background. Also, if a chemical exceeds background at another SWMU, it cannot be dismissed without additional justification, certainly not by stating that it is only 3 or 1.9 times some background value. Please revise the text accordingly. **Response:** The discussion containing '3 and 1.9 times' will be deleted. The conclusion for this site already proposes soil excavation, as previously agreed by the Partnering Team.		
22.	**Comment:** 8.7 Conclusions/Recommendations, pp. 8-7	Original Comment 22 regarding SWMU	The work plan was designed

Six chemicals exceeded their respective SSL values – antimony, arsenic, chromium, selenium, benzo(a)anthracene, and benzo(b)flouranthene. Please provide justification for not sampling subsurface soils and groundwater, given the leaching potential for these chemicals. **Response:** The area is asphalt paved. Without precipitation, there is no mechanism to drive leaching or migration from surface soils.	27 and Comment 25 (SWMU 35) discuss SSL exceedances that require further evaluation. The Department does not concur with the rationale provided in the response that an asphalt cover prevents leaching from surface soils. The Department does not consider asphalt covers to be permanent barriers. Also, based on the information provided, the areas of asphalt covers at SWMU 27 and 35 may increase the leaching potential and contaminant migration to any nearby, down-gradient grassy areas.	primarily around identifying PCB releases. As stated in the workplan, PCBs do not readily migrate to subsurface soils or groundwater.
SWMU 35 – DRMO Salvage Yard: **23. Comment:** 9.6.1 Surface Soil, pp. 9-5 Again, it is inappropriate to screen against industrial reuse values. See Comment #2. **Response:** The discussion already includes comparison to both residential and industrial PRGs, and only one detection of 4,4'-DDT, one Aroclor and one detection of arsenic are indicated as exceeding a residential use PRG while being below the industrial PRG. However, pesticides/PCBs and metals are not being screened out at this site. Note that in other comments to this document, EPA has indicated that the site should be retained for evaluation of capping or excavation by prior agreement of the Partnering Team.		
24. Comment: 9.6.1.1 VOCs, pp. 9-5 Detected concentrations of VOCs are considered to be laboratory contaminants, however, EPA guidance on common laboratory contaminants is not used to justify this conclusion. Please revise the report to include applicable information, as described in Risk Assessment Guidance for Superfund (RAGS), to defend this conclusion, including concentration requirements in method blanks. Please revise the text accordingly. **Response:** The text will be revised to indicate that the subject VOCs 'may' be laboratory contaminants. The confirmatory evaluation proposed by SCDHEC is beyond the scope of this document. The conclusion drawn in this section of the document will be revised to state 'Because of the low concentrations and low rate of occurrence of VOCs observed in soils at this site, VOCs in soil will not be considered further.' Note that in other comments to this document, EPA has indicated that the site should be retained for evaluation of capping or excavation by prior agreement of the Partnering Team.		
25. Comment: 9.6.1.4 Inorganics, pp. 9-8 Several inorganic analytes exceed their respective SSL values. Please explain why subsurface soil was not sampled as part of the confirmatory sampling event. **Response:** The area is mostly asphalt paved. Without precipitation, there is no mechanism to drive leaching or migration from surface soils.	Original Comment 22 regarding SWMU 27 and Comment 25 (SWMU 35) discuss SSL exceedances that require further evaluation. The Department does not concur with the rationale provided in the response that an asphalt cover prevents leaching from surface soils. The Department does	The work plan was designed primarily around identifying lead releases. As stated in the workplan, lead in inert (metallic) form was not expected to migrate.

	not consider asphalt covers to be permanent barriers. Also, based on the information provided, the areas of asphalt covers at SWMU 27 and 35 may increase the leaching potential and contaminant migration to any nearby, down-gradient grassy areas.	
26. **Comment:** 9.6.1.3 Pesticides/PCBs, pp. 9-6 It is inappropriate to dismiss 4,4'-DDT because it is less than its industrial-reuse PRG. Please revise the text accordingly. **Response:** See response to comment 23.		
27. **Comment:** 9.6.1.3 Pesticides/PCBs, pp. 9-6 The Department strongly disagrees with the statements: "Only one PCB detection exceeded an industrial-use soil PRG and pesticide detections did not exceed industrial-use soil PRGs. Therefore, under current industrial conditions, chemicals at SWMU 35 soil do not pose a significant threat to human health." This implies that the MCRD is pursuing an industrial reuse cleanup with associated land use restrictions. That would be a final remedy decision, which is inappropriate at the confirmatory sampling phase of corrective action. Please revise the text accordingly. **Response:** The sentence starting 'Therefore' will be deleted.		
28. **Comment:** 9.7 Conclusions/Recommendations, pp. 9-9 The text states that chloroform, di-n-butyl phthalate, 4,4'-DDE, 4,4'-DDT, dieldrin, Aroclor-1254, Aroclor-1260, antimony, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, selenium, silver, and zinc were detected at concentrations above "background" (see Comment #1) and a human health and/or ecological screening criterion. However, the text later goes on to state that, since all of the above compounds, except for Aroclor-1254 and arsenic, are below industrial-use soil PRGs, the soils do not pose a threat to human health. Then, later in the report, the final recommendation for this SWMU is a request for no further action. Please be advised that any cleanup to levels other than those for residential, unrestricted reuse must include LUCs. The Department does not concur with this recommendation. Please revise the text accordingly. **Response:** In other comments to this document, EPA has indicated that the site should be retained for evaluation of capping or excavation by prior agreement of the Partnering Team. The Partnering Team will need to resolve this issue.		
Comments from: Don Hargrove, SCDHEC Hydrogeologist		

GENERAL COMMENTS 1. **Comment:** MCRD (and the associated environmental contractors) should be advised that any documents which contain geologic interpretations, must be stamped and signed by a Professional Geologist (P.G.) registered with the State of South Carolina. This includes all official versions of the documents in question (e.g., DRAFT, DRAFT FINAL, FINAL). These documents include, but are not limited to, monitoring well approval requests, work plans and/or addendums that propose monitoring wells (both temporary and permanent) or contain any geologic or hydrologic interpretations, as well as reports and/or addendums that contain geologic or hydrologic interpretations. From this date forward, any documents submitted to the Division of Hydrogeology that meet the criteria listed above, but are not stamped and signed by a State certified P.G., will not be reviewed by the Division of Hydrogeology. MCRD will be notified that an unstamped document has been submitted, and that the review will be postponed until a stamped version has been received by the Division of Hydrogeology. **Response:** Acknowledged. A signed certification sheet is included with this letter.	1) Response Acceptable	
2. Comment: It is not appropriate to recommend land-use controls as a final remedy for these SWMUs at this stage of the process. The analytical data generated during this CS/SI shows the presence of contamination at some of these SWMUs. As such, further investigation is necessary to delineate nature and extent of contamination at any of the SWMUs where land use controls have been recommended in this report. **Response:** Based on comments from U.S. EPA and other regulatory agencies, the Navy/Depot has revised the initial recommendations of the SI sites. The Navy recommends activities to support clean closure at Sites 4, 7, 9/16, 13C, and 27 within the next 2 years, an RI/RFI for Site 5, and no action/no further action at this time at SWMU 35. The recommendations are further detailed as follows. • Site 4 – No action/no further action is recommended for both soil and groundwater. Organic compounds were not detected in subsurface soil and groundwater. Additionally, detected inorganic compounds were below or just above established MCRD Parris Island soil background values or below federal MCLs. Consequently, clean closure for this site	2) Site 4: It should be clarified whether reference to "established MCRD Parris Island soil background values" refers to the actual background values OR a comparison to two-times the background value. Site 5: Accepted. Site 7: The Tier I team should meet to discuss the path forward for this Site. Specifically, the scoping of additional investigation(s) should be discussed, as well as when and how remediation can be recommended. Site 9/Site 16: The Tier I team should meet to discuss the path forward for this Site with respect to scoping of additional investigation(s). Site 13C: The Tier I team should meet to discuss the path forward for this Site with	Site 4: The comparison is to 'established MCRD Parris Island soil background values'. The background data set was provided and accepted as Appendix H to help conclude the November 2004 RI/RFI for Site/SWMU 45. Site 7 and Site 13C: The Partnering Team collaborated on the design of the next phase of the investigation, which occurred in September, 2004. The data is currently being evaluated. Site 9/Site 16: Navy/MCRD will work with the Partnering team to scope the path forward. SWMU 35: Until the SWMU is no longer in use by MCRD, the SWMU will remain open.

is sought. • Site 5 – Due to the potential presence of wastes in the subsurface portion of the site, an RI/RFI is recommended to determine whether wastes are present. • Site 7 – To support clean closure of the site, an Extended SI is recommended for groundwater. Extended SI activities would consist of installation and sampling of one permanent monitoring well 50 feet downgradient of the former fire training pit. Groundwater sampling parameters would consist of VOCs, SVOCs, and inorganics. Soil removal is recommended. • Site 9/Site 16 – To support clean closure of the site, an Extended SI followed by a Focused FS is recommended. Extended SI activities would consist of : - Sampling of soils underneath the concrete slab south of Building 895 where paints were formerly stored. - Installation of three piezometers to determine groundwater flow direction. - Installation and sampling of one monitoring well 50 feet downgradient of the site. Sampling would be performed for VOC, SVOC, pesticide, and inorganic analysis. • Site 13C – To support clean closure of the site, an Extended SI is recommended. Extended SI sampling activities would consist of installation of permanent monitoring wells (three total) in the vicinity of temporary well locations PAI-04-GW-01, PAI-04-GW-02, and PAI-13C-GW-02. The monitoring wells would be sampled for inorganics based on exceedances observed from previous SI sampling. A piezometer will be installed in the landfill area to be used to confirm the groundwater flow direction. Additionally, based on discussions during the December 2001 Partnering Team meeting, four surface water samples will be collected from Ballast Creek adjacent to the site. Two samples will be collected during high tide to represent potential surface water inflow into the monitoring wells and two samples will be collected during low tide to represent potential groundwater impacts to the surface water. The samples will be composites, collected over an approximate 2-hour period. The samples will be analyzed for inorganics. • SWMU 27 – Soil removal is recommended. Public participation with this action would be solicited through the publishing of a Proposed Plan followed by a public comment period. • SWMU 35 – No action/no further action is recommended at this time. SWMU 35 is an	respect to scoping of additional investigation(s). SWMU 27: Accepted. SWMU 35: The Department does not concur with the current recommendation. SWMU 35 is still an active SWMU. Until this SWMU is no longer in use by MCRD, the SWMU should remain open.	

	active RCRA unit and soil will be addressed upon final closure of the SWMU. (We note that EPA has recently already indicated that they have a different recollection of the conclusion developed for this site).		
3.	**Comment:** Screening to industrial-use scenarios is inappropriate in this phase of the investigative process. Confirmatory Sampling screening should be to residential-use. This methodology is consistent with all facilities statewide. **Response:** Please see the response to Mr. Stamp's Comments 1 and 2.	3) The Division of Hydrogeology will defer to the Division of Hazardous and Infectious Waste Management on Stamps Comments #1 and #2.	Please see responses to Mr. Stamps comments #1 and #2.
	SPECIFIC COMMENTS:	1) Response Acceptable.	
1.	**Comment:** List of Acronyms: This list should be revised to include "RI VS." **Response:** RI VS will be defined in the acronyms section as Remedial Investigation Verification Step.		
2.	**Comment:** Section 3.1, Site Description (for Site 4-Dredge Spoils Area Fire Training Pit): The estimated volume of 20,000 gallons used during the 20 history of this site does not match volumes calculated using the 300 to 400 gallons per training session estimate stated earlier in the text. If 300 to 400 gallons were used per month, for a period of 20 years, the total volume would be between 72,000 and 96,000 gallons. Please revise the text so that more accurate (and consistent) estimates are given. **Response:** The information was taken from the Initial Assessment Study (NEESA, 1986). NEESA made an assumption that a certain percentage of the liquids brought to the area were either spilled during handling, overflowed the pit, or saturated the pit soils prior to or after burning. This is how the 12,000 (sic 20,000) gallon value questioned by the reviewer was derived. To alleviate confusion, the fifth sentence of the second paragraph on Page 3-1 will be deleted.	2) Response Acceptable.	
3.	**Comment:** Section 3.3.4, Temporary Monitoring Well Installation: This section specifies that "...a thin bentonite grout was added through the PVC pipe as the well casing and screen was removed from the boring." There are a couple of issues that should be discussed: a) Bentonite should not be used in the abandonment of monitoring wells or boreholes. The portion of the borehole above the watertable will not retain enough pore water to keep the bentonite hydrated. The bentonite will inevitably crack during desiccation, thereby creating a preferential migration pathway from the surface to the water table. Grout used in well abandonment should only consist of pure cement grout. No sand or bentonite should be	3) a) Response Acceptable. b) The response to this comment is acceptable for this document only. MCRD should note that R.61-71 of the South Carolina Well Standards were revised on 26 April 2002. These revised Well Standards contain very specific requirements for abandonment of DPT monitoring wells (R.61-71.H.3). All future use of DPT methods for installation of temporary or permanent monitoring wells must follow these	

added to the mixture. b) According to the text, the grout was added to the well by means of pouring the slurry down the well casing and expecting it to transfer through the well screen into the borehole. This is not an acceptable method of abandonment. First of all, a grout mixture that is thin enough to easily pass thought a 0.010" well screen will be so thin that severe shrinkage will occur during curing. It has not been specified that every abandoned well was revisited after 24 hours to add additional grout as needed. It is very likely that these wells remain as open pathways from the surface to the surficial aquifer. Secondly, to ensure that the grout that is added to the well does not get thinned by mixing with groundwater, the grout should be force-injected into the well from the bottom of the borehole until pure grout reaches the ground surface. All of the temporary monitoring wells installed at Site 4 should be inspected. After inspection, a determination on the efficacy of the abandonment method used can be made. Additional abandonment might be required. Since it has been specified in this document that all the temporary monitoring wells installed as part of CS/SI for various sites across MCRD, this comment applies to those sites as well. Any temporary monitoring well abandoned using this method must be inspected, and possibly re-abandoned. **Response:** a) As stated in the comment, the well regulations (R.61-71.10) call for a neat cement grout for well abandonment. The well regulations (R.61.71.6) also allow for the use of a bentonite-cement grout, a neat cement, a sand cement, and concrete to fill the annular space above the seal to the surface during well installation. During the field event in question, a bentonite-cement grout (less than 5 percent bentonite) was used during the temporary well abandonment process. To clarify, it is understood that a 100 percent bentonite grout is inappropriate for the abandonment process for the reasons mentioned. This technique was not used. The term "bentonite grout" will be changed to "bentonite-cement grout." b) During the field events, the well screens were installed to no more than approximately 4 feet below the water table. The bentonite-cement grout was poured through the DPT rods/well screen at an elevation above the ground surface thereby creating the necessary pressure, and then allowed to settle before continuing the process. The grout was added until it appeared at ground surface. The DPT rods/well material were removed and the boreholes topped off with grout until settlement ceased. The borings were inspected after 24 to 48 hours by the driller	requirements.	

	and again by the field geologist prior to leaving Parris Island after completion of all field work at which time none of the borings required additional grouting; thereby, confirming that the grout was not too thin.		
4.	**Comment:** Section 3.6.1, Soil: **a) Comment:** First Paragraph, second sentence: Typographical error "background valves." **b) Comment:** This appears to be the first section in this report that discusses comparisons with industrial-use PRGs. It is unacceptable to screen using industrial values. The decision to use residential vs. industrial risk values comes later in the investigative process. This Confirmation Sampling Report should be revised to exclude any comparisons to industrial-use PRGs. **Response:** a) Background valves will be replaced with background values. b) Please see the response to Mr. Stamp's Comments 1 and 2.	4) a) Response Acceptable. b) The Division of Hydrogeology will defer to the Division of Hazardous and Infectious Waste Management on Stamps Comments #1 and #2.	b) Please see responses to Mr. Stamp's comments #1 and #2.
5.	**Comment:** Table 3-1, Soil/Sediment Analytical Results: a) This table should be revised to explain that the term "MCRD PI BACKGROUND" refers to two times the background concentrations measured from selected sites at MCRD. b) The term "Typical Facility Conc." is not applicable to this table since all of the results are for metals analyses. c) The "J" qualifier should be defined in the legend. d) It is inappropriate to highlight only those detections that exceed both background AND human health and/or ecological screening criteria. Any result that exceeds any of the five screening criteria listed in this table should be highlighted. e) This comment should be applied as appropriate to every table in this report. **Response:** a) Agree. This explanation will be added as a footnote to the table. Please note that background equals two times the mean concentration of background samples. The calculation represents an approximate upper bound of normal metal distribution in media. b) Agree. "Typical Facility Conc." will be removed from the column heading. c) Agree. The "J" qualifier will be defined in the footnotes as an estimated value. d) A background value set has been established at MCRD Parris Island to identify concentrations that fall within the range of naturally occurring concentrations. Results	5) a) Response Acceptable. b) Response Acceptable. c) Response Acceptable. d) It should be clarified whether reference to "established MCRD Parris Island soil background values" refers to the actual background values OR a comparison to two-times the background value. e) Response Acceptable.	d) The comparison is to 'established MCRD Parris Island soil background values'. The background data set was provided and accepted as Appendix H to help conclude the November 2004 RI/RFI for Site/SWMU 45.

	that fall within this range are not contamination. No change is proposed to the tables. e) Acknowledged.		
6.	**Comment:** Section 4.1, Site Description (Former Paint Shop Disposal Area): This section mentions a "small pump house" (Structure 160A), but does not elaborate on it any further. The text should be revised to include some description about the function this pump house serves. **Response:** The pump house is mentioned as a means of referencing the location of the Former Paint Shop Disposal Area. The pump house is not related to prior operations at Site 5.	6) Activities associated with the pump house might be relevant, depending on what function the pump house performs. Whether the pump house is or is not related to prior operations at Site 5 is not relevant. Judging whether the pump house could be affected by contamination from Site 5 is relevant. To answer this comment, MCRD simply needs to state how they use this pump house.	Tim - HELP
7.	**Comment:** Table 4-2, Sediment Analytical Results: There is no discussion in the text concerning the fact that every metals result in this table has a "J" qualifier, while also exceeding twice the measured background concentration. This area should be resampled. The lab performing the analyses should be made aware that the reporting limits must be below the two times background concentrations for all of the metals analyzed. **Response:** The analytical results were qualified as estimated values (J) because the sediment sample contained less than 30 percent solids. This low solids content is typical of sediments. Analytical laboratories take into account the percent solids content of a sample when deriving analytical results. In this derivation, the result obtained by the laboratory is divided by the percent solids content of a sample to conservatively obtain the reported result. As a result of this calculation, the reported result is biased high. When the percent solids content of the sample is less than 30 percent, a J qualifier is assigned to the result.	7) The information included in this response should be added to the text in order to explain the J qualifiers, and lend credibility to the analytical results.	The information in the response will be added to the text.
8.	**Comment:** Section 4.6.1.1, VOCs: The discussion concerning carbon tetrachloride and chloroform being laboratory or field artifacts is not substantiated enough to discount the results for these constituents. It is possible that since Site 5 is the former paint shop disposal area, carbon tetrachloride could be site related. If it is proven that these hits are in fact laboratory or field artifacts, then some discussion is needed to describe how this kind of sample contamination will be avoided in the future. The Tier I Team should discuss this issue further. The relevance of the previous findings and the conclusions drawn from those findings should	8) Response Acceptable.	

	be discussed as well. **Response:** The Navy acknowledges that the VOC detections in the 1995 samples may be site related. Samples collected from 1998 to the present at MCRD Parris Island sites have not resulted in similar results indicating the current field procedures are adequate. These chemicals will be further addressed in a planned RI/RFI for this site.		
9.	**Comment:** Section 5.1, Site Description (Page Field Fire Training Pit): The first sentence in the last paragraph is misleading. The area within the boundaries of Site 7 probably are not currently used for Marine Corps training activities. This is a relatively small area surrounded by a short concrete wall, and completely overgrown with dense pine tree growth. Marine Corps activity in or around Site 7 should be verified, but I believe it would be more accurate to state that during Marine training, military personnel routinely walk past this area, but do not enter it. **Response:** Because this site is within the designated training area, the site can be used for training activities. No change to the text is proposed.	9) This site is an active SWMU, and as such, access to the site should be restricted to reduce exposure risk. MCRD should take steps to ensure and maintain security at this SWMU so that recruits and personnel training in this area are not exposed to risk as associated with this SWMU. There are currently no signs to warn people about this area, and there is no fencing to keep people out of the area. MCRD needs to maintain some form of security at this SWMU as long as it is active.	Tim: HELP
10.	**Comment:** Section 5.6.2, Groundwater: The Maximum Contaminant Level (MCL) listed in this section is not accurate. The proposed MCL of 10 □g/L was not adopted and is not appropriate at this time. This section should be revised to show the current MCL for Arsenic, 50 □g/L. **Response:** Agree. The statement (referencing a proposed MCL of 10 □g/L) was accurate at the time of the submittal of the draft document (February 2001). Since the time of submittal and issuance of the reviewer's comments in June 2001, the proposed MCL has been revoked. The report will be revised to reflect the current MCL.	10) Response Acceptable.	
11.	**Comment:** Section 5.7, Conclusions/Recommendations: a) Comment 10 should be applied here as well. b) Based on the results of VOC and PAH analyses, further investigation is warranted. The recommendation should be revised (see comment 7). **Response:** a) Please see the response to comment 10. b) As discussed in the response to Mr. Stamps' general comment 2, the recommendations section will be revised to recommend installation and sampling of one monitoring well 50	11) a) Response Acceptable. b) The Division of Hydrogeology will defer to the Division of Hazardous and Infectious Waste Management on Stamps Comments #1 and #2.	Please see responses to Mr. Stamp's comments #1 and #2.

feet downgradient of the former fire training pit. Groundwater sampling parameters would consist of VOCs, SVOCs, and inorganics. Soil removal is recommended in the forested portion of the site.		
12. **Comment:** Figures 6-1, and 6-2, (Site 9-Paint Waste Storage Area and Site 16-Pesticide Rinsate Disposal Area): The up-gradient well located south of Sites 9 and 16, and east of the current pesticide facility, is not depicted on these figures. Please revise the figures to include this monitoring well. **Response:** Monitoring well PI-09-GW-01-01 was placed in a location suspected to be upgradient of Site 9. A monitoring well upgradient of Site 16 was not installed. This information will be added to Section 6.3.1.	12) This comment concerns the monitoring well that was installed prior to environmental investigation activities associated with this report. The well is located out in the field, south of the pesticide facility that MCRD is currently using. The well is not associated with Sites 9 or 16 (as far as I know). The comment asks that information about the existence of that well be included in this report as part of the current conditions of the area surrounding Sites 9 and 16.	The well location will be added to Figures 6-1 and 6-2 once it is field verified.
13. **Comment:** Section 7.7, Conclusions/Recommendations (Site 13C-Inert Disposal Area C): a) If the argument is going to be made that the beryllium exceedance is due to high turbidity, a more compelling argument should be presented. Comparisons of the turbidity readings in Table 7-1 versus the analytical results in Table 7-3 do not support this argument. The beryllium exceedance in PAI-04-GW-01-01 came from a sample with a turbidity reading of 146 NTUs, while PAI-13C-GW-02-01 yielded a non-detect result for beryllium from a sample with a turbidity reading of 514 NTUs. The argument for exclusion of the beryllium result should be either revised to justify the conclusion, or deleted from the text. b) The presumption that the exceedences of the Region 4 surface water ESVs (saltwater-chronic) by copper, mercury, and zinc would "...likely attenuate to below ESVs" should be deleted from the text. The surface water screening values cannot be exceeded at the point of entry into the surface water body. To date, MCRD has not sampled groundwater at the sediment/surface water interface. The groundwater samples taken to date clearly show ESVs exceedences. Further evaluation of the groundwater is necessary. **Response:** a) The phrase "and collected from .....turbidity" will be deleted from the text. b) As discussed in the response to general comment number 2, the recommendations	13) a) Response Acceptable. b) This response does not address the comment. Any revision to this section must include the deletion of text per this comment. The term "likely attenuate" is not substantiated with compelling data, nor is it likely that it can be. Even though MCRD plans to further investigate Site 13C, this comment should be noted for future reference.	The term 'likely attenuate' will be removed from the revised CS/SI Report, and will not be used in the write-up for the September 2004 additional investigation.

section will be changed to recommend the collection of four surface water samples from the eastern inlet of Ballast Creek. Additionally, permanent monitoring wells (three total) would be installed in the vicinity of temporary well locations PAI-04-GW-01, PAI-04-GW-02, and PAI-13C-GW-02. The monitoring wells would be sampled for inorganics based on exceedances observed from previous SI sampling.		
14. **Comment:** Section 8.6.1, VOCs (SWMU27-Equipment Parade Deck SAA): Comment 8 applies here as well. The only difference is that because this site is the Equipment Parade Deck Satellite Accumulation Area (SAA), this area could have had any number of various items stored that contain the contaminants in question, and therefore could have introduced these contaminants to the environment. The argument for discounting the carbon tetrachloride and chloroform findings must be substantiated. **Response:** Agree. Since this site is targeted for an excavation, the presence or absence of these VOCs can be determined during confirmatory testing.	14) Response Acceptable.	
15. **Comment:** Table 8-1, Surface Soil Analytical Results: This table indicates that six (6) constituents exceeded the SSLs for migration to groundwater. A groundwater investigation is necessary. **Response:** As discussed in the response to general comment 2, a soil removal is recommended at SWMU 27. Removal of the top layer of soil would lessen the chance for potential contaminants to migrate to groundwater.	15) The response does not address the comment adequately. Soil removal can eliminate the source area for further groundwater contamination, but it does not ascertain the nature and extent of groundwater contamination. This comment stands.	Groundwater will be evaluated during or prior to the soil removal at SWMU 27.
16. **Comment:** Section 9.6.1.1, VOCs (SWMU 35-DRMO Salvage Yard): Same as comment 8. **Response:** Please see the response to Comment 8.	16) Response Acceptable.	
17. **Comment:** Section 9.6.1.2, SVOCs: The statement that "...phthalates are ubiquitous in the environment due to plastic wastes and common laboratory contaminants" is invalid, and should be removed from the text. Plastic wastes are not ubiquitous in the environment. The possibility that phthalate detections might be the result of laboratory contamination does not support the claim of ubiquity. **Response:** Please see the response Mr. Stamps' comment number 8.	17) The statement in question is "...phthalates are ubiquitous in the environment due to plastic wastes and common laboratory contaminants." It should be explained how deeming something "a common laboratory contaminant" can support the claim for ubiquity. The response does not mention common laboratory contamination, and therefore does not address this portion of the original comment. The response would help to rule out a positive detection if the site	The subject statement will be removed from the document. EPA has collected some additional sampling data that will be incorporated into the report revision.

	in question had no previous history that indicated the possibility of a release of the contaminants in question. However, if the site in question routinely dealt with various materials that cannot be completely documented, or the site accepted waste from numerous sources, or the site activities raise the possibility of the contaminants past use and cannot document that they were never used there, any positive detection is presumed to be site related. If MCRD wishes to make the argument that these positive detections are not site related, they must substantiate that argument. Simply citing one ATSDR source is not sufficient. The original comment still stands. Information regarding the Site(s) in question should be presented that shows no risk of releases from the contaminants in question. If this information cannot be presented, the contaminants should be considered site related. The argument that laboratory contamination is an indicator of ubiquity is invalid, and should be deleted from the text.	