

RESPONSE TO AGENCY COMMENTS

DRAFT WORK PLAN FOR GROUP B AREAS OF CONCERN

LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA

Comments from Environmental Protection Agency (U.S. EPA) Region IX - dated 2 April 1998

		U.S. EPA COMMENTS	NAVY/CDM FEDERAL RESPONSE
General	1.	Historically, quench oils and hydraulic fluid contained PCBs. Dioxins are formed during the combustion or heat breakdown of any chlorinated organic compound, including PCBs. Samples collected in the vicinity of areas where hydraulic fluid was used or stored, quench oil dip tanks, quench oil storage areas, and dip tanks where the use was unknown should also be analyzed for PCBs and dioxins.	<p>Agreed. The following text has been added to <b>Section A.6.1</b> immediately after <b>Table A.6-1</b>: "It is possible that quench oils and hydraulic fluids contained PCBs and that dioxins may have formed. Because heat breakdown rather than combustion are associated with the quench oils and hydraulic fluids, it is believed that the potential for dioxins is reduced. Because of the lesser likelihood of formation and the high cost of dioxins analysis, a limited number of samples will be analyzed for dioxins. The samples selected for dioxins analysis will be the one with the highest concentration of PCBs at the quench oil tank area (PT 10) and the one with the highest concentration of PCBs in a hydraulic fluid use area (wood block floor in Building 132)."</p> <p>Analysis for dioxins by U.S. EPA Method 8280 has been added to the following:</p> <ul style="list-style-type: none"> <li>• <b>Table A.6-1</b> (see attached revised table);</li> <li>• <b>Table A.7-1</b> (see attached revised table);</li> <li>• <b>Table A.7-2</b> (see attached revised table);</li> <li>• <b>Section E.1.4.2.4</b>, Bullet 11 ("Dioxins, SW-846 8280A")</li> <li>• <b>Table E.1-1</b> ("Dioxins-Method 8280A"); and</li> <li>• <b>Table E.2-1</b> (Dioxins/8280A, 30 day holding time).</li> </ul>
General	2	Petroleum based oils are composed in part of polynuclear aromatic hydrocarbons (PAHs). Samples collected in areas where oils and fuels were used or stored should be analyzed for PAHs or the full SVOC suite of analytes.	Agreed. <b>Table A.6-1</b> and <b>Table A.7-1</b> have been edited (see attached revised tables).

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General	3	<p>Wood blocks and wood ties were frequently treated with pentachlorophenol, which contains dioxins formed as byproducts during manufacture of this compound. Discuss whether it is known if the Navy treated any wood products on site. If it is not known whether wood treatment was done, all samples collected in the vicinity of dip tanks and quench tanks should be analyzed for pentachlorophenol and dioxins. Pentachlorophenol has been found in dip tank sludges (in a plating shop) at another former Navy shipyard in California.</p>	<p>There has been no known wood products treating at LBNSY, based on information collected during the 1996 EBS (LBNSY-ED 1996) and the 1998 PA (CDM Federal 1998). PA records do not indicate that wood blocks were treated with pentachlorophenol, creosote, or arsenic/zinc/chromium solutions. Samples at wood block floors AOCs are already slated to be tested for SVOCs (including pentachlorophenol), PAHs (the main constituents of creosote), and metals (please refer to <b>Tables A.7-1 and A.7-2</b>). One wood block floor sample will be collected at Building 128, one at Building 129, and two at Building 132 (the largest industrial building); one selected wood block floor sample will be analyzed for dioxins as agreed by the U.S. EPA and RWQCB in the 8 April 1998 meeting (please refer to attached revised tables).</p> <p>Soil samples collected in the vicinity of quenching dip tanks will be analyzed for SVOCs, as described in response to U.S. EPA Comment 2 above.</p> <p>The PA records search has identified plating solutions (by name and chemical components) historically used at the plating shops; however, pentachlorophenol was not named in these records. One soil and one groundwater sample at the Building 210 Plating Shop will be analyzed for SVOCs to verify that pentachlorophenol is not present; see attached revised <b>Tables A.7-1 and A.7-2</b>.</p>
Section 6.1	1	<p>Section 6.1 and Table 6.1. There are no registered geologists or civil engineers listed. Please state whether a California Registered Geologist will supervise the boring and groundwater sampling programs.</p>	<p>Mr. Paul Bertucci, a California Registered Geologist, will provide technical support to the Field Team Leader for the Group B AOCs field work. Mr. Bertucci's name and qualifications have been added to <b>Table 6-1</b> ("Paul Bertucci, Technical Support, Geology, Registered Geologist, M.S.").</p>

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App. A FSP	1	Section A.4.0, Sites with Wood Block Floors. Based on experience, wood block floors at industrial sites where oils, solvents and hydraulic fluids were used have been found to have absorbed high levels of contaminants (PAHs, PCBs, metals, and cyanides) resulting in classification of the wood blocks when removed as a RCRA hazardous waste. The Navy should sample the wood blocks in stained areas to determine whether there are hazards associated with the wood blocks.	<p>The wood block floors are considered part of the buildings, much the same as the floors and roofs, so these may be part of the transfer deed.</p> <p>A bullet has been added to <b>Section A.7.5</b> (paragraph 1, bullet 3) stating the following: "Wood blocks, concrete, and/or asphalt that must be cored to gain access for subsurface sampling."</p> <p>The following sentences have been added to <b>Section A.7.5</b>, second paragraph, after the third sentence: "To the extent possible during sampling, wood blocks will be removed prior to sampling and replaced after sampling, which will minimize the amount of investigation-derived waste (IDW) generated. Any wood not replaced will be considered potentially hazardous waste and will be stored in labeled drums, sampled and tested, then disposed appropriately."</p>
		If the wood blocks are removed in order to complete the borings, they should be replaced with clean wood blocks, the blocks that are removed should be tested and disposed based on sample results.	Wood block floor areas that are not sealed with the original wood blocks will be grouted. The following sentence has replaced Step 21 of <b>Section A.7.2.3.1</b> : "Fill the hole with hydrated bentonite or a cement-bentonite grout."
		If the wood block floor is not removed, the Port of Long Beach should be notified that the wood blocks potentially contain hazardous constituents and also should be notified that if wood blocks are removed or replaced, the used blocks would have to be tested and disposed based on the analytical results.	Please refer to response to Comment 1 for Appendix A above. The Port of Long Beach will receive a copy of the sampling report that describes wood block floor sample results.

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App. A FSP	2	Section A.4.0, p. A.4-3, Propeller Shop, bullet 2. Please indicate if the transformer contained PCBs. If this is not known, this should be investigated during the PA/SI.	The following text has been added to <b>Section A.4.0</b> , Propeller Shop Bullet 2, after the word "fluid": "From 1986 to 1993, LBNSY-ED inventoried all electrical equipment that may have contained PCBs. PCB oils were removed as necessary; disposal records indicate this work was performed from 1990 to 1993. Table 5-9 of the EBS shows transformers containing PCB oils; however, because the transformer located in the Propeller Shop was not listed, it is inferred that it did not contain PCB oils as of 1996."
App. A FSP	3	Section A.4.0, p. A.4-3, Process Tank Site 1. Please investigate whether the degreasing compounds were solvents (historic) or soap-based (recent).	IR Site 8, the TCE disposal area, is located behind Building 210. The TCE solvent is known to have originated from the Building 210 Plating Shop. Samples from this AOC are slated for analysis of VOCs, including TCE. The word "trichloroethylene" has been added before the word "degreaser" in <b>Section A.4.0</b> for Process Tank Site 1.
App. A FSP	4	Section A.4.0, p. A.4-6, PCB Site 20. Please define "PCB coverall", it is unclear whether these coveralls were work by shop personnel or whether this phrase was used to describe other materials used in the cleaning process.	The PA performed in March 1998 identified the item "PCB coverall" and the first sentence for PCB Site 20 in <b>Section A.4.0</b> has been deleted and replaced with: "The site includes two SAPs at Building 130 where used PCB-contaminated gaskets and coveralls (any item of work clothing used by shop personnel that may have been contaminated by PCBs during work activities) were stored."
App. A FSP	5	Table A.6-1. SVOCs or PAHs, PCBs and dioxins should be listed as potential contaminants in the quenching dip tanks. Historically, quench oils were PCB based and dioxins are formed by combustion or heat breakdown of chlorinated compounds, including PCBs. Cyanides should also be listed under potential contaminants for wood floors.	Agreed. <b>Tables A.6-1, A.7-1, and A.7-2</b> have been revised (see attached revised tables).

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App. A FSP	6	Section A.7.2.2, pp. A.7-2 and A.7-3. Where possible, soil sample locations should also be based on activities conducted at different locations in each building. For example, if there are 12 stained areas on the floor, the 7 samples below stained areas should be collected from areas where the process activities would most likely have resulted in significant contamination, like areas near dip or quench tanks where fluids may have dripped onto the floor. The method for selecting sample locations in the field should be explained in detail in the text.	<p>The PA performed in March 1998 has identified recommended sampling locations. These locations were discussed with regulatory agency representatives (U.S. EPA, DTSC, and RWQCB) on 15 April 1998. Sentences three through six of second paragraph, <b>Section A.7.2.2</b> have been deleted.</p> <p>The following text has been added as sentence three, second paragraph, <b>Section A.7.2.2</b>: "Samples will be collected beneath areas where sources of contaminants existed, such as at machinery or tank locations, or where stains are visible."</p> <p>The proposed sampling locations have been revised and are identified on revised <b>Figures A.7-1 through A.7-16</b>.</p>
App. A FSP	7	Figures A.7-1 through A.7-4. It appears that the proposed sample locations were distributed evenly across the building footprints. Please explain whether it is know if the locations shown on the figures are actually located in stained areas. The text should include a detailed explanation or a decision tree to explain how sample locations will be selected in the field.	<p><b>Figures A.7-1 through A.7-4</b> in the Draft Work Plan, dated 25 February 1998, were prepared before the PA was performed. The PA was performed in March 1998 and sampling locations were revised, as described in the response to U.S. EPA Comment 6 above. However, as agreed at the 15 April 1998 site walk, concrete exists beneath the wood blocks and sampling is not required (please refer to attached revised <b>Tables A.7-1 and A.7-2</b>).</p>

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App. A FSP	8	<p>Section A.7.2.2, p. 7-3, bullet and Figures A.7-6a and A.7-6b. Please include the proposed sampling locations on Figure A.7-b and discuss the areas of the plating shop that are targeted by this investigation. Discuss the rationale [i.e., the processes most likely to have resulted in release (e.g., degreasers, plating dip tanks, etc.)] for selection of sample locations.</p>	<p>The PA was performed in March 1998 and sampling locations were selected. These locations were discussed with U.S. EPA, DTSC, and RWQCB personnel onsite on 15 April 1998 and concurrence was obtained on the revised sampling locations (revised <b>Figures A.7-6 and A.7-6b</b>). A total of 10 soil and groundwater sampling locations were agreed upon: three near the low points in the floor drain system (where the overflow or spilled plating solutions drained before being pumped out periodically), one at a 90-degree turn in the floor drain system, one near chemical tanks, and five outside the building, each to be collected as close to the building as possible. The number of samples has been increased from four to ten to be representative of the number of tanks located at this plating shop. The reason five samples are planned for collection outside the building rather than closer to the chemical tanks is that access is poor inside the building. Access is poor for two reasons: (1) the tanks are very close together, some being as close as one foot apart and (2) the sunken drainage floor (about 3 feet deep), which is covered by a grated walkway, has many pipelines that will prevent sampling devices from reaching the drainage floor bottom.</p> <p>The text of <b>Section A.7.2.2, Bullet 6</b> has been revised to state the following: "Ten soil samples will be collected at this AOC (<b>Figures A.7-6a and A.7-6b</b>). Five samples will be collected through holes cored in the floor, and five will be collected outside the building because of access problems inside the plating shop. Access problems for drilling in the plating shop exist because the tanks are very close to each other (often one foot away) and because of the sunken drainage floor and grated walkways. Depths of the samples will generally be two to three feet below the base of the tank at the perimeter of the tank."</p>

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App. A FSP	9	Section A.7.2.2 and Figures A.7-2, A.7-7, and A.7-11. Please explain why the area with solvent tanks in Building 129 was not also selected for investigation.	The solvent tanks in question were small, portable, Safety-Kleen-type 20-gallon tanks, not large process tanks. As many as 15 of these 20-gallon tanks were located throughout Building 129; but sampling beneath the wood block floors is no longer required, as agreed with the regulatory agencies on 15 April 1998. CDM Federal verified on 28 April 1998 that concrete exists beneath the wood blocks in Building 129. These solvent tanks have been deleted from <b>Figures A.7-2, A.7-7, and A.7-11.</b>
App. A FSP	10	Section A.7.2.2, p. A.7-4, bullet 2 and Figure A.7-12. It appears that two soil sample locations are in the vicinity of a transformer, but this is not discussed. Please explain.	The transformers are not part of this AOC, but were addressed under a separate program from 1990 to 1993 that included sampling of transformer oils. The two soil sampling locations were designated where dip tanks were thought to have existed. But the PA performed in March 1998 identified the exact locations of these tanks: at the north end of Building 132, not on the west side. A reduction to two sampling locations was agreed upon by the U.S. EPA, DTSC, and RWQCB on 15 April 1998; these sampling locations have been changed on <b>Figure A.7-12.</b>  The text of <b>Section A.7.2.2, Bullet 12</b> , has been changed from "Four" to "Two" samples.
App. A FSP	11	Section A.7.2.3.1, p. A.7-6, item 1. Please clarify whether the sampling location will be determined during the PA phase (the text says SI phase). Also, the work plan should include the rationale (or decision tree) to be used to select the sampling locations.	The text was incorrect: the sampling locations will be determined during the PA. The acronym "SI" in <b>Section A.7.2.3.1, Step 1</b> has been changed to "PA."  The second paragraph of <b>Section A.7.2.2</b> describes sampling location selection rationale and has been revised, as described in response to U.S. EPA Appendix A FSP Comments 6 and 7.

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App. A FSP	12	Section A.7.2.3.1, p. A.7-6, item 3. Specify how the wood surface will be handled. For example, use of water during coring will cause the rest of the floor to expand and buckle, but water is necessary to avoid setting the wood on fire. Also discuss how the wood "cores" will be disposed.	<p>The following text has been added as the second sentence of Step 3 of Section A.7.2.3.1: "Coring through wood block floors will be avoided where possible by removing wood blocks manually prior to sampling. Where wood blocks cannot be removed manually, they will be cored. Water mist will be used as necessary to cool the wood."</p> <p>The following text has been added to the end of Step 20, Section A.7.2.3.1: "If removed intact, the wood blocks will be reinstalled after sampling to minimize generation of IDW. Otherwise, wood cores will be drummed and tested to assess whether they are hazardous, then disposed accordingly" as stated in revised Section A.7.5 (see response to U.S. EPA Appendix A FSP (Comment 1)).</p>
App. A FSP	13	Section A.7.2.3.1, p. A.7-7, item 14a. VOC samples should not be extruded from the brass or stainless steel liner. Instead Teflon™ sheeting and end caps should be used to seal the liners. Labels can be placed directly on the sleeves. Please revise the procedure in this section. The correct procedure is included in Sections 5.2.2 and 5.2.4 of SOP 1-4 (Appendix D).	<p>Agreed. Soil samples slated for VOC analysis will not be extruded in the field. The following text has replaced the fifth through seventh sentences of the first paragraph of Section A.7.2.3.1 ("Soils): "The sampler and push rod will be retracted from the hole and the sleeve containing the soil sample will be removed. The sleeve ends will be immediately capped with Teflon™ squares and end caps."</p> <p>The text of Section A.7.2.3.1, Step 13a has also been changed by retaining only the first two sentences of Bullet 1. The last sentence of Step 14 has been deleted and replaced with the following sentence: "Cap the sleeve ends with Teflon™ squares and plastic end caps."</p>

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App. A FSP	14	Section 7.2.3.1, p. A.7-8, item 20 and Section A.7-5, p. A.7-11. Soil should not be returned to the borehole because of the potential for mixing and contamination of less contaminated zones. Boreholes should be filled with hydrated bentonite or a cement bentonite grout. Soil spoils should be placed in drums, sampled for characterization, and disposed of in accordance with RCRA and/or California waste disposal standard.	<p>Agreed. The text of Section A.7.2.3.1, Step 20 has been deleted and replaced by: "Clean up the sample handling area. Soil cuttings will not be generated because the sampling technique hydraulically pushes the probe into the subsurface; however, a small amount of excess soil IDW may be generated if any soil samples are not retained for laboratory analysis. Transfer excess soil to a 55-gallon drum. Transfer decontamination wastewater to a 55-gallon drum for future disposal."</p> <p>Step 21 has been deleted and replaced by: "Fill the borehole with hydrated bentonite or a cement-bentonite grout."</p>
App. A FSP	15	<p>Table A.7-1. Soil samples for all sites where oils or petroleum products were used should be analyzed for SVOCs.</p> <p>Quench oils historically contained PCBs; PCBs and other chlorinated compounds breakdown in the presence of heat into dioxins and furans, so all sites (e.g., PT-10, PT-7, and PT-8) with quench or dip tanks should include analyses for PCBs and dioxins.</p> <p>All sites where plating was conducted or where plating materials were stored should include analyses for cyanide.</p>	<p>Please refer to response to U.S. EPA General Comment 2.</p> <p>Please refer to responses to U.S. EPA General Comments 1 and 3.</p> <p>Agreed. No changes are necessary to Appendix A Tables A.6-1, A.7-1, and A.7-2 for the plating shops because cyanide was already listed for plating shops.</p>

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App. A FSP	16	Section A.7.5, p. A.7-11. Wood blocks or cores may also require disposal as hazardous waste because wood absorbs substances spilled on it. Concrete and asphalt are also permeable and may be contaminated. Please specify waste handling procedures for wood blocks, concrete and asphalt cores.	See response to U.S. EPA Appendix A FSP Comments 1 and 12.  Section A.7.5, paragraph 2, sentence 3 has been deleted and replaced with the following text: "Soil, wood blocks, concrete, and asphalt will be placed in an appropriate container (5- to 55-gallon drum) and maintained onsite until all analytical work is completed."
QAPP	1.	Section E.1.4.2.4, p. E.1-9, Analytical Methods and Quantitation Limits. Include extraction and sample cleanup methods in addition to the determinative methods.	Extraction and cleanup methods have been added to Section E.1.4.2.4, paragraph 1 bullets, in parentheses after the U.S. EPA method number as follows: 6010C (3005 [aqueous], 3010 [soil]), 8260B (5030), 8270C (3580), 8082 (3520 [aqueous], 3540 [soil]), and Modified 8015 (5030).
QAPP	2	Table E.1-1, p. E1-11. The heading for VOCs is incorrect. The method should be listed as 8260 B (per section E.1.4.2.4).	The heading for VOCs in Table E.1-1 has been changed to 8260B.
QAPP	3	Table E.1-1, pp. E.1-11 and E.1-12. A number of non-halogenated compounds (mainly alkylbenzenes) are listed <i>under Halogenated VOCs- Method 8021A</i> . While the presence of these compounds can be determined by Method 8021A, they are not halogenated.	Method 8260B will be used instead of Method 8021A as originally proposed because mass spectrometry allows better confirmation, avoids the need for second column confirmation, can detect the VOC chemicals of concern at plating shops, and makes method use consistent at all sites. The substitution of 8260B for 8021A has been performed by deleting 8021A and HVOCs in Appendix A Tables A.7-1 and A.7-2, the fourth bullet in Section E.1.4.2.4, Table E.1-1, and Table E.2-1.
QAPP	4	Table E.2-1, p. E.2-3. Sample holding times for soil halogenated VOCs should be 14 days instead of 40.	Agreed. But Method 8021A for halogenated VOCs has been deleted as described in response to U.S. EPA Comment 3 for the QAPP (Appendix E), so this line has been deleted in Table E.2-1, columns 8 and 9.

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QAPP	5	Table E.2-1, p. E.2-3. Sample holding times for soil hexavalent chromium analysis should be 72 hours for sample extraction and an additional 24 hours for extract analysis.	Table 3-1 (page 3-4) of SW-846 Update 3, dated December 1996, states hexavalent chromium holding times for Method 7196A for soil are one month for extraction and 4 days for analysis. These holding times have been added to <b>Table E.2-1</b> .
QAPP	6	Section E.1.6, p. E1-15. Please specify in detail the information that the laboratory will include in the "QC Package". The text only specifies that a QC package is required as part of the submission, but does not indicate the complete contents of this submission.	The following text has been added as the second paragraph of <b>Section E.1.6</b> : "The QC package will include, at a minimum, the following: case narrative; sample results; MS/MSD results, LCS/LCSD results, %Rs, and RPDs; duplicate results; blank results; COC forms; sample receipt log-in forms; temperature and pH information, where applicable; and any other QC sample results as required by the method."
QAPP	7	Section E.2.4.1, p. E.2-7. Add a discussion of corrective action guidelines specified for "out of control" laboratory events (unacceptable QC, blanks, calibrations, etc.).	The following text has been added to <b>Section E.2.4.1</b> after paragraph 2: "Corrective action guidelines for the laboratory include the following: <ul style="list-style-type: none"> <li>• If any deficiencies are noted as the samples are received (e.g., discrepancies in the sample chain-of-custody form, insufficient sample volume, or holding time exceedance), the laboratory will contact the CDM Federal Project Manager.</li> <li>• If out-of-control events occur (e.g., unacceptable QC, blank contamination, out-of-control calibration), the laboratory will follow the procedures required by the analytical method. The laboratory QC Coordinator will also be notified and a corrective action form will be completed. Corrective action may include, among other steps, re-analyzing the sample."</li> </ul>
QAPP	8	Section E.2.5.2, p. E.2-7. Specify the "minimum period of time" over which field duplicates will be collected (i.e., will the duplicates will be collected immediately after the first sample?).	The phrase "consecutively over a minimum period of time" has been deleted in the first sentence of the "Field Duplicates" discussion in <b>Section E.2.5.1</b> . The replacement sentence is "Field duplicates will be collected at a single sampling location, collected identically and immediately after the original sample."

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QAPP	9	<p>Section E.2.5.2.1, p. E.2-8. The frequency for internal QC is not clear. The first paragraph indicates that lab QC will comprise 5% of each data set (one per 20) and will include LCS/LCSD and MS/MSD samples. The second paragraph indicates that one laboratory control sample will be analyzed per 20 samples. Revise the second paragraph to indicate that a LCS/LCSD and/or MS/MSD set are required for every 20 samples, not a single QC sample. Also, the second paragraph should specify that a method blank is required for each sample preparation batch in addition to the blank analysis performed after instrument calibration.</p>	<p>Agreed. The first paragraph of Section E.2.5.2.1 has been replaced by the following paragraph:</p> <p>“QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of glassware and reagents. Each type of laboratory-based QA sample (including method blanks) will be analyzed at a rate of 5% or one per batch (a batch is a group of up to 20 samples analyzed together), whichever is more frequent. Results of the QC analyses will be included in the QC package, and QC samples will consist of laboratory duplicates, laboratory blanks, MS/MSDs, and LCS/LCSDs, whichever is applicable, and any other method-required QC samples.”</p> <p>The second paragraph of Section E.2.5.2.1 has been edited by deleting the second and fifth sentences. These sentences were “one method blank will be analyzed after calibration per 12 hour shift (one per batch)” and “One laboratory control sample will be analyzed at a frequency of 1 in every 20 analyses.”</p>

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Comments from Department of Toxic Substances Control (DTSC) – dated April 27, 1998

	DTSC COMMENTS	NAVY/CDM FEDERAL RESPONSE
1.	Please delete the 25 AOCs (addressed in Work Plan Addendum No. 1) from Table 1-1, as these AOCs will not be addressed in this work plan.	<p>The Work Plan discusses the approach, rationale, DQOs, FSP sampling procedures, QAPP, etc. for all 182 Group B AOCs, including the 25 AOCs addressed in Work Plan Addendum No. 1. The 25 AOCs will be retained in <b>Table 1-1</b>. Footnote (b) has been added to the first 25 AOCs listed in <b>Table 1-1</b>, stating “Accelerated schedule.”</p> <p>The following text has been added after the first sentence, third paragraph, <b>Section 1.1</b>: “The investigation of 25 AOCs has been placed on an accelerated schedule to expedite property reuse. These 25 AOCs are numbered 1 through 25 in <b>Table 1-1</b>. One PA Report has been prepared for these 25 AOCs, and a separate PA Report will be prepared for the remaining 157 AOCs.”</p> <p>The second sentence, third paragraph, <b>Section 1.1</b> has been moved to start a new (fourth) paragraph. The word “only” has been deleted and the word “these” has been changed to “the.” This sentence now reads: “This Work Plan address the Group B AOCs, which are listed in <b>Table 1-1</b>.”</p>
2.	For <b>Table 1-2</b> , the table lists “15” AOCs to be addressed but the text states “16”. Please clarify or correct the number of AOCs to be listed in <b>Table 1-2</b> .	Process Tank PT 11, the Plasma Arc Cutting Tank in Building 128, was mistakenly omitted from <b>Table 1-2</b> of the Draft Work Plan but has been added to <b>Table 1-2</b> of the Final Work Plan after row 13. AOC PT 11 was addressed in Appendix A of the Draft Field Sampling Plan.
3.	DTSC recommends that the field sampling plan be removed from Appendix A and placed in the main body of the document, as it is an essential part of the work plan.	As agreed by the RPM and DTSC in a telephone conversation on 14 May 1998, the FSP will remain as Appendix A for this document only. Future Work Plan deliverables will include the FSP in the main document, not as an Appendix.

**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

<p>4.</p>	<p>Finally, DTSC, in agreement with EPA, requests the Draft PA/SI be renamed to "PA". The Draft PA/SI does not fulfill the requirements of a Site Inspection, but does fulfill those of a Preliminary Assessment under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).</p>	<p>The term SI has been removed from the document from the following areas (page number, paragraph, line):</p> <ul style="list-style-type: none"><li>Title page (deleted "/Site Inspection")</li><li>Cover page (deleted "/Site Inspection")</li><li>Executive Summary paragraph 1 line 5 (deleted "and Site Inspection")</li><li>Executive Summary paragraph 1 deleted sentences 7 and 8</li><li>Executive Summary paragraph 2, sentence 2 (deleted "(SI phase)").</li><li>Table of Contents Section 3.2 (changed to Sampling)</li><li>Table of Contents Table 1-2 title (changed to sampling)</li><li>List of Acronyms and Abbreviations (deleted "SI Site Inspection")</li><li>Section 1.0, paragraph 1, sentence 2 (deleted "both" and "Site Inspection (SI)")</li><li>Section 1.0, paragraph 2, sentence 3 (deleted "(SI phase)")</li><li>Section 1.1 paragraph 3 sentence 3 (changed ". and SIs" to "; sampling")</li><li>Section 1.1 paragraph 4 bullet 3 (deleted entire bullet and text)</li><li>Section 3.0 paragraph 2 (changed "SI" to "sampling program")</li><li>Section 3.2 title (changed to "Sampling")</li><li>Section 3.2.1 paragraph 1 sentence 1 (changed "The soil SIs" to "Sampling")</li><li>Section 3.2.1 paragraph 2 sentence 2 (changed "the soil SI" to soil sampling")</li><li>Section 3.2.2 paragraph 1 sentence 1 (changed "The groundwater SIs" to "Groundwater sampling")</li><li>Section 5.3 paragraph 1 sentence 1 (deleted "SI")</li><li>Section 5.3 paragraph 3 sentence 1 (deleted "/SI")</li><li>Figures 5-1, 5-2, and 5-2 (changed "SI" to "PA")</li><li>Section 6.0 paragraph 1 sentence 1 (deleted "/SI")</li></ul>
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**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

		<p>Section 6.2 paragraph 1 sentence 1 (changed "SI" to "sampling") Table 6-2 (deleted "SI" and "/SI") Section 7.0 paragraph 4 sentence 1 (deleted "SI") Section 8.0 (deleted fourth reference)</p> <p>APPENDIX A</p> <p>Appendix A, page vi, List of Acronyms, deleted "SI Site Inspection" Section A.1.0, page A.1-1, paragraph 1, sentence 2, changed "Site Inspection (SI)" to "sampling". Section A.1.0, page A.1-1, paragraph 2, sentence 1, changed "requiring an SI" to "requiring sampling". Section A.1.0, page A.1-1, paragraph 2, sentence 3, changed "SI" to "sampling". Section A.4.0, page A.4-1, paragraph 1, sentence 2, changed "the SI" to "sampling". Section A.6.0, page A.6-1, paragraph 1 sentence 2, deleted "under the SI phase of investigation". Section A.7.1, page A.7-1, sentence 3, deleted "/SI". Section A.8.0, page A.8-1, bullet 1, changed "an SI" to "sampling". Section A.8.9, page A.8-1, paragraph 5, changed "an SI" to "sampling".</p> <p>APPENDIX E</p> <p>Appendix E, page E-vii, List of Acronyms, deleted "SI Site Inspection". Section E.1.0, paragraph 1, sentence 1, changed "/Site Inspection (PA/SI) to "(PA)". Section E.1.1.1, paragraph 1, sentence 1, deleted "/SI".</p>
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**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN FOR GROUP B AREAS OF CONCERN**

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		Section E.1.2, paragraph 2, sentence 1, deleted “/SI”. Section E.1.3, paragraph 1, sentence 1, deleted “/SI”. Section E.1.3, paragraph 2, sentence 1, changed “an SI” to “sampling”. Section E.1.3, paragraph 2, sentence 2, changed “SI” to “sampling”. Section E.1.3, paragraph 3, sentence 2, changed “SI” to “sampling”.
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**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

Comments from Regional Water Quality Control Board (RWQCB) – dated 29 April 1998

	<b>RWQCB COMMENTS</b>	<b>NAVY/CDM FEDERAL RESPONSE</b>
1.	Figure 5-2 in the Draft Workplan indicates that a Human Health Risk Assessment is the only action recommended if groundwater contamination is present at concentrations exceeding screening criteria for the site. Note that if the screening criteria for shallow groundwater at this site is exceeded, groundwater remediation, contaminant source identification and contaminant source removal must be addressed.	In Figure 5-2, the triangle decision box “Recommend Further Action: Human Health Risk Assessment” has been deleted. The “Yes” arrow now goes directly to the final box that includes the possibility of further investigation via an expanded site inspection.
2.	The drydock dewatering pumps may provide a conduit between the shallow and underlying aquifers. We understand that not all pumps are in operation and certain pumps have been removed. Material from past drydock and pump operations may have been collected in these sumps. As discussed in the April 8, 1998 meeting, identify pumps that have been removed and include pump-sump sediment sampling in the workplan.	(This comment has been addressed in Work Plan Addendum No. 1, not the main Work Plan)

**TABLE A.6-1  
ACTIVITIES AND POTENTIAL CONTAMINANTS**

<b>Process/Activity</b>	<b>Potential Contaminants</b>
Plating Shop Process Tanks	Metals, hexavalent chromium, cyanide, chlorinated solvents (VOCs), acids
Quenching Dip Tank	Metals, petroleum hydrocarbons, SVOCs including PAHs, PCBs, dioxins, VOCs
Cleaning Dip Tanks	Metals, VOCs
Plasma Arc Cutting Tank	Metals
PCB gaskets and coveralls	PCBs
Wood floors - many processes	VOCs, SVOCs, metals, PCBs, petroleum hydrocarbons, cyanide, dioxins

Notes:

PAHs = polynuclear aromatic hydrocarbons

PCB = polychlorinated biphenyl

SVOCs = semivolatile organic compounds

VOCs = volatile organic compounds

**TABLE A.7-1  
PROPOSED SAMPLING MATRIX  
Group B AOC Investigation**

LOCATION	AREA OF CONCERN	PROCESS	NUMBER OF SAMPLES					VOCs	SVOCs	Metals	PCBs	CN	pH	TPH	Cr <sup>+6</sup>	Dioxins (e)			
			SOIL	GROUND-WATER	LIQUID	WIPE	WOOD BLOCKS												
Bldg. 128 (Shipfitter Shop)	MISC 1	Wood Floor (Many Processes)					1												
		Many Processes	1																
		Dip tanks Sump Lubricating Oils			1														
	MISC 5	Dirt Floor Foundry/Heat Treatment	4																
	PT 10	Quenching Dip Tanks	4	3														X (e)	
	PT 11	Plasma Arc Cutting tank	1	1															
Bldg. 129 (Marine Machine Shop)	MISC 2	Wood Floor (Many Processes)						1										X (e)	
	PT 2	Plating Shop	1	1														X	
	PT 7	Cleaning Dip Tanks	4																
Bldg. 130 (Sheet Metal Shop)	MISC 3	Floor (Many Processes)	8 (a)																X (e)
	PCB 16, 20	PCB SAPs Paint Stain	1 (c)	1 (c)															
	PT 6	Sheet Metal Cleaning /Plating Shop	4	3															X
Bldg. 132 (Machine Shop/Pipe and Copper Shop)	MISC 4	Wood Floor (Many Processes)			1			2											X (e)
	PT 4	Cleaning/Plating Tanks	4	3															X
	PT 5	Plating Shop (2nd Floor)	1	1															X
	PT 8	Tin Dip Tanks	2																X
Bldg. 210 (Electronic Weapons)	PT 1	Plating Shop	10 (d)	10 (d)	1														X
<b>TOTAL</b>			45	23	3	2	4												

Notes:

- (a) If concrete >6 inches thick, no samples will be collected
- (b) Will address both PCB SAPs
- (c) Paint stains on asphalt
- (d) Difficult access within building; may not be able to collect all samples
- (e) Dioxins will be analyzed in two samples where PCB concentrations are the highest; one soil sample (AOC PT 10) and one wood block sample (AOC MISC 4).
- (f) One sample of soil and one of groundwater will be collected to verify that pentachlorophenol from wood treating was not used at this site.

Bldg. = building

MISC = miscellaneous

PT = process tank

VOC = volatile organic compound

SVOC = semivolatle organic compound. Includes polynuclear aromatic hydrocarbons (PAHs) and pentachlorophenol.

PCB = polychlorinated biphenyl

CN = cyanide

TPH = total petroleum hydrocarbons

Cr<sup>+6</sup> = hexavalent chromium

SAPs = satellite accumulation points

**TABLE A.7-2**  
**LABORATORY ANALYSES AND NUMBER OF SAMPLES**  
**Group B AOC Investigation**

MATRIX	AOC No.	AOC Description	Samples											
			(b)	VOCs	SVOCs	Metals	PCBs	pH	TPH	Cyanide	Dioxins	Cr+6		
Soil	MISC 1	Wood Block Floors, Building 128	1	1	1	1	1			1	1			
	MISC 3	Floors, Building 130 (f)	8	8	8	8	8		8	8				
	MISC 5	Dirt Floor-Foundry/Heat Treat, Building 128	4			4								
	PT 1	Plating Shop, Building 210	10	10	1	10			10		10		10	
	PT 2	Plating Shop, Building 129	1	1		1			1		1		1	
	PT 4	Cleaning/Plating Shop, Building 132	4	4		4			4		4		4	
	PT 5	Plating Shop, Second Floor, Building 132	1	1		1			1		1		1	
	PT 6	Sheet Metal Cleaning/Plating, Building 130	4	4		4			4		4		4	
	PT 7	Cleaning Dip Tanks, Building 129	4	4		4								
	PT 8	Tin Dip Tanks, Building 132	2			2				2				
	PT 10	Quenching Tanks, Building 128	4	4	4	4	4		4			1		
	PT 11	Plasma Arc Cutting Tank, Building 128	1			1								
	PCB 16/20	Paint Stain area	1	1		1								
	Duplicates (a)		5	4	2	5	2		2	2	3		2	
<b>SUBTOTAL</b>		<b>50</b>	<b>42</b>	<b>16</b>	<b>50</b>	<b>15</b>		<b>22</b>	<b>17</b>	<b>32</b>	<b>1</b>	<b>22</b>		
Wipes	MISC 1	Wood Block Floors, Building 128 - Oil	1				1							
	PCB 16	Ventilation Gasket Removal, Building 130	1				1							
	PCB 20	PCB Gaskets and Coveralls, Building 130												
	Duplicates (a)		1				1							
	<b>SUBTOTAL</b>		<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Wood Blocks	MISC 1	Building 128	1	1	1	1	1		1	1				
	MISC 2	Building 129	1	1	1	1	1		1	1				
	MISC 4	Building 132	2	2	2	2	2		2	2	1			
	Duplicates (a)		1	1	1	1	1		1	1				
	<b>SUBTOTAL</b>		<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>0</b>		
Liquid	MISC 1	Building 128, Sump between dip tanks	1	1	1	1	1		1	1				
	MISC 4	Wood Block Floors, Building 132	1	1	1	1	1		1	1				
	PT 1	Plating Shop, Building 210	1	1	1	1		1		1		1		
	Duplicates (a)		1	1	1	1	1	1	1	1				
	<b>SUBTOTAL</b>		<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>1</b>		
Water	PT 1	Plating Shop, Building 210	10	10	1	10		10		10		10		
	PT 2	Plating Shop, Building 129	1	1		1		1		1		1		
	PT 4	Cleaning/Plating Shop, Building 132	3	3		3		3		3		3		
	PT 5	Plating Shop, Second Floor, Building 132	1	1		1		1		1		1		
	PT 6	Sheet Metal Cleaning/Plating, Building 130	3	3		3		3		3		3		
	PT 10	Quenching Tanks, Building 128	3	3	3	3	3		3					
	PT 11	Plasma Arc Cutting Tank, Building 128	1			1								
	Duplicates (a)		2	2		2		2	1	2		1		
	Equipment Rinsates (c)			4	4	3	3	2	4	2		3		
	Field Blanks (d)			1	1	1	1	1	1	1		1		
	Trip Blanks (e)			14										
	<b>SUBTOTAL</b>		<b>24</b>	<b>42</b>	<b>9</b>	<b>28</b>	<b>7</b>	<b>23</b>	<b>9</b>	<b>23</b>	<b>0</b>	<b>23</b>		

Notes:

- (a) Duplicates collected at a frequency of 10 percent per analytical method.
- (b) Number of samples from Draft Work Plan, revised based on regulatory comments and 4/15/98 site visit.
- (c) Equipment rinsates: one per sampling technique.
- (d) One for the field event.
- (e) One per cooler containing samples for VOC analysis.
- (f) Samples to be collected only if concrete floor is less than six inches thick.

AOC Area of Concern

- VOCs Volatile Organic Compounds
- SVOCs Semivolatile Organic Compounds
- PCBs Polychlorinated Biphenyls
- TPH Total Petroleum Hydrocarbons
- Cr+6 Hexavalent Chromium
- MISC Miscellaneous
- PCB Polychlorinated Biphenyl
- PT Process Tank

**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN ADDENDUM NO. 1 FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

Comments from Environmental Protection Agency (U.S. EPA) Region IX - received 23 April 1998

	<b>U.S. EPA COMMENTS</b>	<b>NAVY/CDM FEDERAL RESPONSE</b>
1.	Section 3, p. 8, last paragraph and Figure 8. The text states that one soil and one groundwater sample will be collected in the steam-cleaning area, but Figure 8 only shows a soil sample. The groundwater sample should also be collected. Please revise this figure.	Collection of one groundwater sample at the steam-cleaning area has been added to <b>Figure 8</b> .

**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN ADDENDUM NO. 1 FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

	<b>U.S. EPA COMMENTS</b>	<b>NAVY/CDM FEDERAL RESPONSE</b>
2.	<p>It is unclear why sampling was not proposed for Drydock 1. If contamination is found in either the Drydock 2 or Drydock 3 sediment samples, it will be necessary to go back and sample Drydock 1 sediments. Please explain why Drydock 1 was not proposed for sampling and consider collecting a sediment sample from this drydock.</p>	<p>U.S. EPA comments on the Draft PA Report (Comment 2 on Drydock 1), dated 2 April 1998, addressed this question. In summary, Drydock No. 1 tunnels were cleaned out regularly through August 1997, according to Ed Nunn, former Drydock Supervisor and current LBNSY employee. LBNSY was already operationally closed at that time, so no more ship repair activities took place after the August 1997 cleaning event. The cleaning process involved pumping out water, shoveling sediment into containers on wheels, and vacuuming the sediment into a truck.</p> <p>The following text has been added to <b>Section 2.0</b>, page 4, after the second full paragraph (no text has been removed from <b>Section 2.0</b>):</p> <p><b>Drydock 1 Tunnels (SWS 3)</b></p> <p>“There are two areas at Drydock 1 where pumps are located: (1) drainage/discharge tunnels and (2) hydrostatic pressure relief wells.</p> <p>1. Drainage/discharge tunnels. Bolted steel plates and 2-ton weights cover the access point to many of the drydock drainage and discharge tunnel dewatering pumps. Eleven of the 50 pumps are no longer in place. The drainage and discharge tunnel pumps are located about 70 to 80 feet below ground surface and contain mercury seals. The pumps are located in sumps that are approximately 1.5 to 2 feet in diameter and several feet deep into the tunnel floor. Sediment sampling will be attempted at the bottom of one of the pump sumps. A sampling rig will be placed over an access hole and sampling rods will be lowered into the sump at the bottom of the tunnel. One sediment sample from a representative sump will be collected and analyzed for metals, organotin, PCBs, VOCs, TPH, and SVOCs including PAHs.</p>

**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN ADDENDUM NO. 1 FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

	<b>U.S. EPA COMMENTS</b>	<b>NAVY/CDM FEDERAL RESPONSE</b>
2. (cont.)		<p>It should be noted that collection of a sediment sample from a tunnel sump will be technically difficult and potentially hazardous for the following reasons: (1) the tunnels are constantly flooded with water and cannot be completely dewatered, (2) the narrow diameter of these vertical access holes (from 2.5 to 6 feet in diameter) and their depth (approximately 70 to 80 feet to the bottom of the tunnels) prevents humans from entering these holes to collect a sample, (3) the narrow diameter of the sumps at the bottom of the tunnels (1.5 to 2 feet) is too narrow for many sampling devices, and (4) the access holes are located over the edge of the drydock. If access is not possible, then sampling will not occur and the sampling report will state that the potential wastes in the pump sumps could not be characterized due to lack of access.</p> <p>2. The hydrostatic pressure relief wells that dewater the drydock area are 20 to 30 feet away from the drainage and discharge tunnels. Because the wells are not physically connected to the drainage and discharge tunnels, they did not receive wastes from the drydocks. These wells have concrete covers, are 12 inches in diameter, approximately 100 feet deep, and have 6-inch diameter pumps set at about 85 feet below ground surface. These pumps remain in place, although not all are functioning. Sediment samples from the bottom of these wells cannot feasibly be collected because sampling devices cannot be lowered to such a depth in such a small diameter hole. According to LBNSY Facilities Manager Ron Johnson, these well pumps contain mechanical seals, not mercury seals.”</p>

**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN ADDENDUM NO. 1 FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

	<b>U.S. EPA COMMENTS</b>	<b>NAVY/CDM FEDERAL RESPONSE</b>
3.	<p>Table 3. The Drydock 2 (SWS4) and Drydock (SWS5) samples should also be analyzed for organotins since these compounds could be released during sandblasting or painting in the drydock.</p> <p>The acetylene generation and sludge pit (HIST5) sample should be also be analyzed for metals.</p>	<p>Organotins analysis has been added to <b>Tables 2 and 3</b> for Drydocks 1, 2, and 3.</p> <p>Metals are not suspected site contaminants, according to information presented in the Draft PA Report and detailed in the response to U.S. EPA Comment 1 on AOC HIST 3 for the Draft PA Report. This response is copied below:</p> <p>The following has been added as the third paragraph of <b>Section 4.8.2</b> on page 4.8-2:          "The most common and oldest process of producing acetylene is shown in the following equations:</p> $\text{CaO (s)} + 3\text{C} \rightarrow \text{CaC}_2 \text{ (s)} + \text{CO (g)}$ $\text{CaC}_2 \text{ (s)} + 2\text{H}_2\text{O (l)} \rightarrow \text{Ca(OH)}_2 \text{ (s)} + \text{C}_2\text{H}_2 \text{ (g)}$ <p>where CaO = calcium oxide (quick lime), C = carbon, CO = carbon monoxide, CaC<sub>2</sub> = calcium carbide, H<sub>2</sub>O = water, Ca(OH)<sub>2</sub> = calcium hydroxide (hydrated lime), and C<sub>2</sub>H<sub>2</sub> = acetylene.</p> <p>The sludge consisted of calcium hydroxide discharged in a lime slurry containing approximately 90 percent water (Shreve and Brink 1977). Less common acetylene generating processes used petroleum products."</p> <p>The concentration of manganese in limestone used to produce calcium oxide (CaO) (i.e., quicklime) is low compared to the U.S. EPA Region IX industrial PRG for manganese (43,000 mg/kg); no PRG exists for magnesium. Therefore, metals are not recommended for analysis.</p>

**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN ADDENDUM NO. 1 FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

Comments from Department of Toxic Substances Control (DTSC) - dated April 27, 1998

	<b>DTSC COMMENTS</b>	<b>NAVY/CDM FEDERAL RESPONSE</b>
1.	In Figure 6 of the Addendum No. 1, there is an X which is circled. Please delete or clarify as this figure is not in the legend.	The circled "X" has been deleted.
2.	DTSC has the same concern as comment # 1 from EPA comments.	Please refer to response to U.S. EPA Comment 1.

**RESPONSE TO AGENCY COMMENTS**

**DRAFT WORK PLAN ADDENDUM NO. 1 FOR GROUP B AREAS OF CONCERN**

**LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA**

Comments from Regional Water Quality Control Board (RWQCB) - dated 29 April 1998

	<b>RWQCB COMMENTS</b>	<b>NAVY/CDM FEDERAL RESPONSE</b>
1.	Figure 5-2 in the Draft Workplan indicates that a Human Health Risk Assessments the only action recommended if groundwater contamination is present at concentrations exceeding screening criteria for the site. Note that if the screening criteria for shallow groundwater at this site is exceeded, groundwater remediation, contaminant source identification and contaminant source removal must be addressed.	(This comment has been addressed in the Work Plan, not Work Plan Addendum No. 1)
2.	The drydock dewatering pumps may provide a conduit between the shallow and underlying aquifers. We understand that not all pumps are in operation and certain pumps have been removed. Material from past drydock and pump operations may have been collected in these sumps. As discussed in the April 8, 1998 meeting, identify pumps that have been removed and include pump-sump sediment sampling in the workplan.	Sediment sampling at Drydocks 2 and 3 has been added to the Final PA Report recommendations and is included in Work Plan Addendum No. 1.  The text of Section 2.0 has been edited as described in response to U.S. EPA Comment 2.

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RESPONSE TO AGENCY COMMENTS DRAFT  
WORK PLAN ADDENDUM NO. 1  
FOR GROUP B AREAS OF CONCERN

THE ABOVE IDENTIFIED PAGE IS NOT AVAILABLE

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**DIANE C. SILVA**  
**RECORDS MANAGEMENT SPECIALIST**  
**SOUTHWEST DIVISION**  
**NAVAL FACILITIES ENGINEERING COMMAND**  
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PAGE 8

RESPONSE TO AGENCY COMMENTS DRAFT  
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**TABLE 2  
PROPOSED SAMPLING MATRIX**

LOCATION	AREA OF CONCERN	PROCESS	NUMBER OF SAMPLES			ANALYTICAL PARAMETERS							
			SOIL	GROUND WATER	SEDIMENT	VOCs	SVOCs	Metals	PCBs	Organo-tin	pH	TPH	Pesticides
Sanitary Sewer System	SSS 1	Disposal	14	14		X	X	X	X		X		X (a)
Storm Water System	SWS 2	Disposal	5	5	6	X	X	X	X	X			X
Drydock 1	SWS 3	Drainage			1	X	X	X	X	X			X
Drydock 2	SWS 4	Drainage			1	X	X	X	X	X			X
Drydock 3	SWS 5	Drainage			1	X	X	X	X	X			X
Building 98	HWF 5	Fiberglass operations	3	3		X							
Former Building 162 A	HIST 3	Acetylene Generation and Sludge Pit		1			X				X	X	
Gun Mount Cleaning, Storage, and Repair Yard	HIST 5	Gun Cleaning	5	5		X	X	X					X
Public Works Yard Associated with Building 5	MISC 9	Painting Booth Pesticide Shop Area Steam Cleaning /Solvent Tank	3 1 1	3 1 1		X  X		X  					X  
<b>TOTAL</b>			<b>32</b>	<b>33</b>	<b>9</b>								

Notes:

- (a) Groundwater samples only.
- Bldg. = building
- SSS = Sanitary Sewer System
- SWS = Storm Water System
- HIST = Historical
- MISC = Miscellaneous
- VOCs= volatile organic compounds
- SVOCs = semi-volatile organic compounds
- PCBs = polychlorinated biphenyls
- TPH = total petroleum hydrocarbons

**TABLE 3  
LABORATORY ANALYSES AND NUMBER OF SAMPLES**

MATRIX	AOC No.	NO. OF AOCs	NO. OF SAMPLES PER AOC	TOTAL NO. OF SAMPLES	ANALYTICAL CATEGORIES								
					VOCs	SVOCs	Metals	PCBs	Organotin	pH	TPH	Pesticides	Coliform
Soil	SSS 1	1	14	14	14	14	14	14			14		
	SWS 2	1	5	5	5	5	5	5	5		5		
	HWF 5	1	3	3	3								
	HIST 5	1	5	5	5	5	5				5		
	MISC 9	1	5	5	5	4	1	3			1	1	
	Duplicates (a)					4	3	3	2	1	3	3	1
	<b>SUBTOTAL</b>		<b>5</b>	<b>32</b>	<b>32</b>	<b>35</b>	<b>28</b>	<b>32</b>	<b>21</b>	<b>6</b>		<b>27</b>	<b>2</b>
Sediment	SWS 2	1	6	6	6	6	6	6	6		6		
	SWS 3	1	1	1	1	1	1	1	1		1		
	SWS 4	1	1	1	1	1	1	1	1		1		
	SWS 5	1	1	1	1	1	1	1	1		1		
	Duplicates (a)					1	1	1	1	1	1		
	<b>SUBTOTAL</b>		<b>4</b>	<b>9</b>	<b>9</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>		<b>10</b>	
Water	SSS 1	1	14	14	14	14	14	14			14		14
	SWS 2	1	5	5	5	5	5	5	5		5		
	HWF 5	1	3	3	3								
	HIST 3	1	1	1	1		1			1	1		
	HIST 5	1	5	5	5	5	5	5			5		
	MISC 9	1	5	5	5	4	1	3			1	1	
	Duplicates (a)					4	3	3	2	1	3	3	2
	<b>SUBTOTAL</b>		<b>6</b>	<b>33</b>	<b>33</b>	<b>35</b>	<b>29</b>	<b>30</b>	<b>21</b>	<b>6</b>	<b>1</b>	<b>29</b>	<b>2</b>

Notes:

(a) Duplicates: 10 percent frequency per matrix

AOC = Area of Concern  
HIST = Historical  
HWF = Hazardous Waste Facility  
MISC = Miscellaneous  
No. = Number  
PCBs = polychlorinated biphenyls  
SWS = Storm Water System  
SSS = Sanitary Sewer System  
SVOCs = semi-volatile organic compounds  
TPH = total petroleum hydrocarbons  
VOCs = volatile organic compounds



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CA 92132-5190

5090  
Ser 56LB.KB/0200  
May 28, 1998

Mr. Alvaro Gutierrez  
Department of Toxic Substances Control  
Region 4  
5796 Corporate Avenue  
Cypress, CA 90630

Dear Mr. Gutierrez:

Enclosed is a copy of the Final Response to Comments regarding the *Draft Work Plan for Group B Areas of Concern* and the Final Response to Comments regarding the *Draft Work Plan Addendum No. 1 for Group B Areas of Concern* at the former Long Beach Naval Shipyard. These Response to Comments are provided for your review.

We request a verbal concurrence to your comments by June 9, 1998.

If you have any questions or comments, please contact Mr. Kurt Baer at (619) 532-4713.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kimberly Kesler".

KIMBERLY KESLER  
Base Closure Manager  
By direction of the Commander

Encl: (1) Final Response to Comments regarding the *Draft Preliminary Assessment (PA) Report for 25 Group B Areas of Concern (AOCs)*

5090  
Ser 56LB.KB/0200  
May 28, 1998

Copy to:  
Mr. Hugh Marley  
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Monterey Park, CA 91754-2156

Mr. Martin Hausladen  
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