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NSY LONG BEACH
SSIC NO: 5090.3.A

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

5090
Ser 06CA.JV/0521
May 17, 2002

Ms. Sue Hakim
California Environmental Protection Agency
Department of Toxic Substances Control
5796 Corporate Way
Cypress, CA 90630

SUBJECT: DRAFT FINAL WORK PLAN FOR CONDUCTING AN EXPANDED SITE INSPECTION FOR IR SITE 16, BUILDING 210 FORMER PLATING SHOP AT FORMER LONG BEACH NAVAL SHIPYARD, LONG BEACH, CALIFORNIA

Dear Ms. Hakim:

Enclosed please find the Draft Final Work Plan for Conducting An Expanded Site Inspection for IR Site 16, Building 210 Former Plating Shop at Former Long Beach Naval Shipyard, Long Beach, California (Enclosure 1) and response to regulatory agency comments (Enclosure 2) for your review.

As you are aware, Site 16 is located within an area designated to open for port operations in July 2002. To accommodate the Port of Long Beach construction schedules and planned opening date as best as we can, fieldwork is scheduled to begin June 17, 2002. We would greatly appreciate your written confirmation that your comments have been satisfactorily addressed by May 31, 2002. Once we receive your approval, the document will become final and we will proceed with field activities. If you have any questions or concerns regarding this document, please contact Jennifer Valenzia, the project manager, at (619) 532-0919.

Sincerely,

THOMAS L. MACCHIARELLA
BRAC Environmental Coordinator
By direction of the Commander

Enclosure: 1. Draft Final Work Plan for Conducting An Expanded Site Inspection for IR Site 16, Building 210 Former Plating Shop at Former Long Beach Naval Shipyard, Long Beach, California dated May 17, 2002
2. Response to Regulatory Agency Comments on the Draft Work Plan for Conducting An Expanded Site Inspection for IR Site 16, Building 210 Former Plating Shop at Former Long Beach Naval Shipyard, Long Beach, California dated March 26, 2002

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Copy to:
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California Regional Water Quality Control Board
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Los Angeles, CA 90013

Mr. Tom Johnson
The Port of Long Beach
P.O. Box 570
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ENCLOSURE 1

DRAFT FINAL
WORK PLAN FOR CONDUCTING AN EXPANDED SITE INSPECTION FOR INSTALLATION RESTORATION SITE 16, BUILDING 210 FORMER PLATING SHOP

DATED 17 MAY 2002

THIS RECORD IS ENTERED IN THE DATABASE AND FILED AS

RECORD NO. N60258_000231

Responses to the Review Comments on the Draft Work Plan Conducting An Expanded Site Inspection For Installation Restoration Site 16, Building 210 Former Plating Shop

No.	Comments	Responses
Reviewer 1: Sue Hakim (Department of Toxic Substances Control)		
1	Section 1.1 Objectives, mentions that the information obtained (from the ESI) will be used to perform a human health and ecological risk assessment to determine maximum levels of metals contamination acceptable for protection of human health and sensitive receptors, and to select and develop a remediation plan for the site. Are you planning to perform a screening risk assessment using the preliminary remediation goals in accordance with DTSC's Human and Ecological Risk Division's memorandum of October 28, 1994?	We propose to conduct a scoping level ecological risk assessment consistent with the DTSC guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities, Part B: Scoping Assessment (July 4, 1996). The scoping assessment will focus on identifying contaminants of potential (ecological) concern, potential ecological receptors, and potentially complete exposure pathways. In accordance with the guidance, ecological risks will not be calculated in the scoping assessment.
2	Please correct Figure 2-3 for Long Beach Naval Complex instead of Camp Pendleton.	The figure badge for the monitoring well construction diagram will be changed as requested.
3	All soil and groundwater samples should be analyzed for cyanide (EPA methods 9010B/9014)	Cyanide will be analyzed using EPA Method 9010B/9014 in all soil and groundwater samples.
4	Please analyze all samples for hexavalent chromium using EPA Method 7199. Groundwater samples should be analyzed within 24 hours of sampling. As a result, groundwater sampling should not be allowed on weekends to avoid exceeding the 24-hr holding time limit.	We will use EPA Method 7199 for all soil and groundwater samples. We will work with the drillers and analytical lab to assure that groundwater samples are analyzed within the 24-hour holding period.
5	In table 3-1, Data Quality Objectives, page 34, step 5, please correct the text to "further action is warranted if total cancer risk is > 1×10^{-6} and/or Hazard Index is >1". Please delete the following: "Risk management decision is warranted if total cancer risk is between 1×10^{-6} and 1×10^{-4} or Hazard Index is >1"	Changes to the text will be made as requested.

Reviewer 2: Ron Okuda (Department of Toxic Substances Control)		
6	EPA Test Method 7196A vs. Test Method 7199. The Work Plan includes a proposal to analyze soil samples for hexavalent chromium (Cr(VI)) using EPA Method 7196A. For groundwater samples, the Work Plan proposes to initially analyze the samples for Cr(VI) using test method 7196A and further analyze all samples that are non detect for Cr(VI) using test method 7199. The Hazardous Materials Laboratory, Department of Toxic Substances Control has prepared a memorandum regarding the use of test methods 7196A and 7199 for Cr(VI) analyses. The memorandum states that EPA test method 7199 is the method of choice for analysis due to its selectivity and sensitivity. The Work Plan should be revised to specify that all soil and groundwater samples analyzed for hexavalent will follow EPA test method 7199. The Work Plan includes a proposal to field screen groundwater samples for Cr(VI) using a Hach™ spectrophotometer (equivalent to EPA test method 7196A). The screening proposal may provide valuable information, however, GSU recommends that split samples also be submitted to analysis for EPA test method 7199.	We will use EPA Method 7199 for all soil and groundwater samples. We will work with the drillers and analytical lab to assure that the soil and groundwater samples are analyzed within the 24-hour holding period. See the response to Comment #7 for information regarding the Hach™ field-screening test.
7	Section 1.4 General Project Approach This section states that decisions on sampling depths, plume boundaries, and locations of permanent groundwater monitoring wells will be based on the results of field screening using a	All soil and groundwater samples will be analyzed with EPA Method 7199. The use of the Hach™ spectrophotometer is limited only to field-screening to set the boundary of the Cr(VI) plume at levels above 10 µg/L. We will use the Hach™ spectrophotometer to locate the "hot zone" and the 10ug/L boundary. We will continue to step out in 50 to 100 ft intervals after we hit the 10-µg/L boundary to attempt to locate the non-detect (i.e. < 1 µg/L) boundary.

	Hach™ spectrophotometer (or equivalent) for Cr(VI) analysis. The California Ocean Plan criteria of 2 µg/L for Cr(VI) has been established for groundwater at Long Beach Naval Shipyard. It is not clear how the field screening will provide adequate information to delineate the plume boundaries or make decision on monitoring well locations or sampling depths when the states method detection limit of the Hach™ spectrophotometer is 10 µg/L. The Work Plan should provide clarification on how concentration data collected with the Hach™ spectrophotometer will be used when the minimum detection limit is five times the California Ocean Plan criteria. The groundwater field-screening method proposed may serve as a valuable role as a tool for delineation of elevated (greater than 10 µg/L) Cr(VI) contamination in groundwater. However, if elevated concentrations of Cr(VI) are detected and the Hach™ spectrophotometer is used to delineate the boundaries of the higher concentration portion of the plume, GSU still recommends that split samples be collected and analyzed using EPA method 7199.	Again, the Hach™ spectrophotometer will be for field-screening purposes only. Analytical results using EPA Method 7199 will be used to delineate the plume and select locations for permanent groundwater monitoring wells. As such, we recommend to not collect split samples when using the Hach™ spectrophotometer.
8	Section 2.3.4 Groundwater Monitoring Well Installation This section states that after the groundwater contamination plume is delineated, the location and construction details for the permanent groundwater wells will be finalized. The information provided in the Work Plan does not	As recommended, we will prepare and submit a separate work plan for the proposed groundwater monitoring well locations, design, installation procedure, and well development method.

	provide an adequate description or discussion of the well construction, development and sampling protocols. Hydrogeologic information acquired during the site investigation may require site-specific design of the monitoring wells. GSU recommends that the proposed groundwater monitoring well locations, design, installation procedure, and well development method be submitted as a separate work plan.	
9	Section 2.3.5 Groundwater Sampling from Monitoring Wells The Work Plan does not adequately describe or discuss the procedures for purging and sampling the groundwater monitoring wells, GSU recommends that the proposal for groundwater sampling of the permanent wells be provided in a separate work plan. The work plan can reference a groundwater sampling plan already approved by DTSC for similar monitoring wells already on the Base.	The proposed groundwater sampling method from the permanent wells will be provided in the work plan stated under response to Comment #8.
10	Section 2.4 Sample Analysis All soil samples should be analyzed for pH in addition to metals and Cr(VI) because the former plating shop used acids and caustic solutions.	All soils will be analyzed for pH.
11	Section 2.4.1.2 Analysis of Soil Samples for Metals/Cr(VI) in Laboratory See General Comment regarding the use of EPA test method 7199 instead of method 7196A.	See response to Comment #6.
12	Table 2-1 Summary of Analytical Methods for Soil and Groundwater	See response to Comment #6.

	See General Comment regarding the use of EPA test method 7199 instead of method 7196A.	
13	Table 2-2 Reporting Limits, Industrial PRGs, Background Levels, and Project-Specific Threshold Levels for Metals in Soil. The Table indicates that 64 mg/kg of Cr(VI) is the "project-specific threshold level" for soil based on US EPA Region IX Industrial PRGs. Since the site is covered with over 15 feet of fill it does not appear that the exposure pathway for an industrial worker is complete. However, the potential for continuing impact to groundwater exists and therefore the project-specific threshold levels for Cr(VI) should be based on the California Ocean Plan Criteria of 2 µg/L for Cr(VI). Considering the shallow depth to groundwater and the fluctuating groundwater levels due to tidal influences, the Work Plan should include a discussion on how the concentration of contaminants will be evaluated to determine the amount that can remain in the vadose zone without impacting groundwater in the future.	A footnote will be added to Table 2-2 indicating that the threshold values in the table are not anticipated to act as cleanup levels at the site, but are provided as screening guidelines for QA/QC purposes to assess the adequacy of the analytical reporting limits. This table will be revised to reflect the use of EPA method 7199 for hexavalent chromium analysis in soil. This method has a reporting limit of 0.005 mg/kg in soil, which should be more than adequate for QA/QC purposes. During the risk assessment process, the potential human and ecological exposure routes will be assessed. At this preliminary stage, it does not appear that there are potential exposure routes for humans including inhalation, dermal exposure, or ingestion of groundwater and soil from the site. It is our intention to further investigate the migration of Cr(VI) from soil to groundwater as part of this study. It is not possible at this time to determine the amount of Cr(VI) that can remain in the vadose zone without impacting groundwater in the future. This will be determined on a site-specific basis based on the results of this investigation, results of the human health and ecological screening risk assessments, and fate and transport modeling results. Fate and transport modeling may include a similar dilution attenuation factor method as presented in the U.S. EPA Soil Screening Guidance or computer-based modeling to meet Ocean Plan Criteria at an appropriate discharge point.
14	Section 2.4.2.2 Analysis of Groundwater Samples for Metals/Cr(VI) in Laboratory This section states that in order to delineate the Cr(VI) contamination plume to 2 µg/L, the groundwater samples that are non-detect for Cr(VI) by EPA test method 7196A will be reanalyzed by EPA test method 7199. The holding	We will use EPA Method 7199 for all soil and groundwater samples. We will work with the driller and analytical lab to assure that the samples are analyzed within the 24-hour holding period.

	time for water samples analyzed by EPA test method 7199 is 24 hours. Due to the number of samples being collected, it does not seem likely that an analytical laboratory will be able to analyze samples twice within a 24-hour period. GSU recommends tat all sample be analyzed just using EPA test method 7199.	
15	Table 3-3 Method Precision and Accuracy Goals for Metals and Cr(VI)- Water and Soil Samples The table should include matrix spike and matrix spike duplicate accuracy and precision values for soil samples analyzed using EPA test method 7199.	This information will be added to Table 3-3 as requested.
Reviewer 3: Alan Jessen (Department of Toxic Substances Control)		
14	Appendix A, Section 1, General Information and Disclaimer. The document date is January 2001. It should state January 2002.	The date of the HASP will be corrected.
15	Appendix A, Section 2, Project Information. The Site Safety Officer (SSO) is Chris Coonfare and alternate SSO Wendy Condit. The phone numbers and job location given is in Ohio for these individuals. Please clarify if this person will be on site. If not, state who will be acting on site SSO.	These individuals will be on-site during the field work. Other on-site personnel may be designated as the SSO in their place if and/or when they are not on-site. At least one on-site staff member will have a cellular phone at all times.
16	Appendix A, Section 4, Chemical Hazard Information. The Permissible Exposure Limits (PELs), listed are for federal facilities and are from the Code of Federal Regulations (CFR). It is recommended that the California PELS be used or the American Conference of Governmental Industrial Hygienists (ACGIH) TLVs. They are set at levels based on current research with a	The California PELs will be added to the HASP.

	higher confidence of worker exposure safety. (See CCR Title 8, Section 5155, revised 12-7-2001 or the 2002 ACGIH TLVs).	
17	Appendix A, Section 15, Personal Protective Equipment. This section does not require the use of hard hats at this site. Please clarify why hard hats will not be required near heavy equipment.	Hard hats will be required near heavy equipment and the PPE list in the HASP will be corrected to reflect the presence of overhead hazards.
Reviewer 4: Ana M. Townsend (Los Angeles Regional Water Quality Control Board)		
18	On page 11, the work plan indicates that, after the initial soil and groundwater sampling efforts have been completed and results reviewed, four 2-inch monitoring wells will be installed. Depending on the initial groundwater sampling results, additional groundwater monitoring wells may be required. The Regional Board recommends that the decision on the number of wells to be installed be made after reviewing the results from the initial groundwater sampling activities. Please revise the draft work plan to reflect the above.	See response to Comment #8.
19	The 2-inch groundwater monitoring wells should not be installed prior to regulatory approval. Once groundwater monitoring well locations have been determined, please submit a revised well location map for regulatory approval. Please revise the draft work plan to reflect the above.	See response to Comment #8.
20	On page 13, the work plan indicates that 20 groundwater sampling locations will be selected from 36 potential locations identified in the work plan. The regulatory agencies should be involved in the final selection of the groundwater sampling locations based on field data collected. The Regional Board recommends that prior to collecting groundwater samples, the regulatory	Selection of the 20 out of 36 groundwater sampling locations will be based on field screening methods (e.g. Hach™ colorimetric kits). We welcome the participation of DTSC and/or LA RWQCB in the field screening effort and request the on-site presence of DTSC and/or RWQCB representative(s) or availability of these individuals for frequent cellular teleconferences during drilling and sampling anticipated to require 3 weeks, beginning in mid-June. Because instant sampling decisions will have to made in the field during drilling and because the turnaround time on the Cr(VI) analysis is 24 hours, it will not be

	agencies be notified of all groundwater sampling locations. Please revise the draft work plan to reflect the above.	possible to wait for off-site concurrence/approval of the sampling locations.
21	Based on the proposed groundwater sampling grid shown on Figure 2-2 and results of the previous samples collected, the Regional Board recommends that the Navy collect additional groundwater samples within the plating shop area Please revise the report accordingly.	We propose to take two more additional groundwater samples within the footprint of the building at the locations designated on the attached revised Figure 2-2.