

RESPONSE TO COMMENTS
Draft Quality Assurance Project Plan (QAPP)
MCAS El Toro, California

<p>Originator: Lisa Hanusiak, Chemist Quality Assurance Management Section (P-3-2)</p> <p>To: Bonnie Arthur, Remedial Project Manager Navy Section (H-9-2)</p> <p>Date: May 5, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0210</p>
<p><u>MAJOR CONCERNS</u></p> <p>1A. Section 3.2.1.2, Field Screening. Detection limits should be specified for the various field screening instrumentation/techniques (e.g., portable gas chromatograph, portable scintillometer, x-ray fluorescence, immunoassay test kits) discussed in Section 3.2.1.2 of the QAPjP. It is further recommended that these detection limits be discussed in relation to the limits for on-site mobile laboratory and fixed-based laboratory analyses and the applicable regulatory limits.</p>	<p><u>RESPONSES TO MAJOR CONCERNS</u></p> <p>RESPONSE 1A: Comments incorporated into Appendix A of QAPP in Table A-1. Field Screening devices will only be used if PRGs can be met for residential land use. A diagram has been added (Figure 3-1) to Section 3 to describe field screening and CLP confirmation protocol.</p>
<p>1B. It is unclear whether the analytical scheme described in Section 3.2.1.2 will be applied to all or to only a fraction of the planned analyses for the proposed investigation. The discussion in Section 3.2.1.2 should be expanded to specify the field screening techniques that will be used for each analytical parameter. If field screening will not be performed for certain analytical parameters and samples will be submitted directly to an on-site mobile laboratory or a fixed-based laboratory, these parameters should be specified in the QAPjP.</p>	<p>RESPONSE 1B: The field screening scheme is site-specific and is discussed in WP/DQO for each site. An overview of field screening scheme can be seen in Figure 3-1. A statement has been added to Section 3.2.1.2 referencing the specific DQOs for each site in WP.</p>
<p>1C. The text in Section 3.2.1.2 states that 5% of samples determined to be free of contamination by preliminary field screening will be submitted to an on-site mobile laboratory for analysis, and that 10% of the samples with positive results and 5% of samples determined to be free of contamination by mobile laboratory analyses will be submitted to a fixed-based laboratory. The QAPjP should state how the samples submitted for mobile laboratory and fixed-based laboratory analyses will be selected.</p>	<p>RESPONSE 1C: Random selection of samples for CLP confirmation will be used as described in WP and has been incorporated in QAPP in Section 3.2.1.4. The actual number of samples submitted to fixed-based laboratory for CLP confirmation has been determined as of the meeting on June 6 and has been incorporated into Table 3-2 in QAPP.</p>
<p>2A. Table 3-2, Quality Assurance Objectives; Appendix B, Table B-1, Project Required Detection Limit. Precision and accuracy goals should be added to Table 3-2 of the QAPjP for the following analytical parameters:</p> <ul style="list-style-type: none"> • total petroleum hydrocarbons [TPH] (SW8015M; aqueous/solid samples) 	<p>RESPONSE 2A: CLEAN II contract lab QA manual limits have been added to Table B-1 for methods that do not provide these parameters within the method.</p> <p>Additionally, hexavalent chromium will be analyzed by EPA Method 7196 to satisfy lower PRG levels.</p>

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<ul style="list-style-type: none"> • polychlorinated biphenyls [PCBs] (SW4020; aqueous samples) • gross alpha and beta radioactivity (SW9310; aqueous/solid samples) • total Kjeldahl nitrogen [TKN] (E352.3; aqueous samples) • total phosphate (E365.2; aqueous/solid samples) • total cyanide (E335.1/E335.2; aqueous/solid samples) • total organic carbon [TOC] (E415.1/SW9060; aqueous/solid samples) • biological oxygen demand [BOD] (E405.1; aqueous samples) • chemical oxygen demand [COD] (E410.4; aqueous samples) • hexavalent chromium (SM17 3500-Cr D; aqueous/solid samples) • dioxins/dibenzofurans (SW8280; aqueous samples) • polynuclear aromatic hydrocarbons (SW8310; aqueous samples) 	<p>(Corrected - see previous page.)</p>
<p>2B. Detection/reporting limits should be added to Table B-1 for the following parameters:</p> <ul style="list-style-type: none"> • TKN (E353.3; aqueous samples) • total dissolved solids [TDS] (E160.1; aqueous samples) • TOC (E415.1/SW9060; aqueous/solid samples) • BOD (E405.1; aqueous samples) • COD (E410.4; aqueous samples) • total phenolics (SW9065; solid samples) • sulfate (E375.4; solid samples) 	<p>RESPONSE 2B: CLEAN II contract laboratory QA manual reporting limits have been added to Table B-1 because they are not listed within the specified method. EPA Method 351 is the method for TKN not EPA Method 353.</p>
<p>2C. Detection limits should be specified for all target analytes listed in Table B-1. "NL" (Not Listed) or "___" is entered instead of detection limits in the table for many analytes.</p>	<p>RESPONSE 2C: The EQLs, PQLs listed are derived from the method, however, the reporting limits from CLEAN II contract labs QA manual have replaced "NL" where possible.</p>

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<p>3. <u>Appendix B, Table B-1, Project Required Detection Limits.</u> The analytical methods specified for several of the chemicals of potential concern (COPC) do not provide sufficient sensitivity to detect these chemicals at concentrations below the risk-based concentrations (RBCs) specified in Table B-1 of the QAPjP. This issue is a concern for the following analytes: carbon tetrachloride, chloroform, dibromochloromethane, 1,2-dichloroethane, 1,2-dichloropropane, and 1,2,2-tetrachloroethane (SW8010); vinyl chloride (SW8240); heptachlor epoxide (SW8080); n-nitrosodipropylamine (SW8270); and arsenic and beryllium (SW6010).</p> <p>In order to reliably quantitate these analytes at concentrations less than RBCs, it may be necessary to use alternative methods or to modify the specified methods. For example, for SW-846 Method 8010 analyses, it may be sufficient to analyze a low level standard daily to demonstrate the ability of the laboratory to detect these analytes at the RBCs.</p> <p>For the analysis of arsenic and beryllium, the use of an atomic absorption spectroscopic method, rather than the specified inductively coupled plasma (ICP) emission spectroscopic method, may be necessary.</p> <p>All method modifications and alternative methods should be specified in the QAPjP.</p>	<p>RESPONSE 3: (See next page)</p> <p>The detection limits listed are those within the specific methods. The CLEAN II laboratory will provide the lowest possible detection limits with the best technology and methods available to satisfy the residential PRGs.</p> <p>A statement was added to Section 3.2.1 regarding a low level standard to be analyzed by the laboratory to demonstrate these low analyte RBCs/PRGs can be reached.</p> <p>ICP-MS will be used for analysis of arsenic, antimony beryllium, and thallium to satisfy the PRGs.</p> <p>No method modifications are necessary; but if for some reason it becomes necessary, appropriate regulatory concurrence will be obtained. The alternative methods that may be used have been included into Section 3.</p>
<p>4. <u>Section 6.3, Laboratory Quality Control Checks.</u> The discussion of laboratory quality control (QC) checks in Section 6.3 of the QAPjP should be expanded considerably. This is particularly important for procedures not covered under any of the Contract Laboratory Program (CLP) Statement of Work (SOW) documents. The</p>	<p>RESPONSE 4: This section is generic because the CLEAN II contract laboratory QA manual is required to address these issues and to comply with NFESC 20.2-047B requirements. The QA manual then gets reviewed and approved by the Navy. A more detailed presentation was added to Section 6 for guidance purposes.</p>

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<p>information presented in Section 6.3 is generic in form and method-specific information for both organic and inorganic analyses should be provided. It is recommended that laboratory standard operating procedures (SOPs) (for both field screening/mobile laboratory analyses and fixed laboratory analyses), or a summary of the various instrument calibration procedures (specifying, at a minimum, calibration frequency, acceptance criteria, and standard concentrations), QC checks and corrective action measures that will be performed when system failures occur be provided. Although certain analytical requirements are specified in SW-846 and other EPA methods, many of these requirements are discretionary and may not be comprehensive. For organic methods, the surrogate spike and matrix spike compounds should be specified. For all methods, the documentation requirements for data collection and reporting should be specified.</p>	<p>Additionally, the QA/QC requirements for the mobile laboratory are equivalent to the fixed-based laboratory QA/QC requirements. Laboratory SOPs may be specific to the laboratory thus, issues such as calibration procedures, spike/surrogate compounds, etc. are found in a laboratory specific QA manual.</p>
<p><u>OTHER CONCERNS</u></p> <p>1. <u>Table 4-1, Sample Containers, Preservatives, and Holding Times for Organics</u> The following modifications should be incorporated into Table 4-1:</p> <ul style="list-style-type: none"> • Aqueous samples for total petroleum hydrocarbon as diesel (TPH-d), semivolatile organic compound (SVOC), explosive, herbicide, polychlorinated dibenzo-p-dioxin/dibenzofuran (PCDD/PCDF) and pesticide/polychlorinated biphenyl (PCB) analyses should be extracted within 7 days of collection. • It is recommended that 2 liters of aqueous sample be collected at each location for herbicide and PCDD/PCDF analyses. The extra sample volume will allow for reextraction/reanalysis of samples if necessary. 	<p><u>RESPONSES TO OTHER CONCERNS</u></p> <p>RESPONSE 1: The suggested modifications were incorporated into Table 4-1.</p>

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<ul style="list-style-type: none"> • It is not necessary to collect 4 liters of aqueous sample for both SVOC and pesticide/PCB analyses (8 liters total) or for explosive analyses. It is sufficient to collect a total of 4 liters of aqueous sample for both SVOC and pesticide/PCB analyses. For explosive analyses following SW-846 8330, a 5 milliliter sample is required; a volume significantly smaller than 4 liters is necessary. • Samples for total recoverable petroleum hydrocarbon (TRPH) analyses should be analyzed within 28 days. • Soil samples for PCDD/PCDF analyses should be collected in an 8 ounce wide mouth glass jar. 	
<p>2. <u>Section 6.1.1, Field Analytical Quality Control Procedures, Duplicates.</u> The text in Section 6.1.1 of the QAPjP states that the laboratory will prepare duplicate soil samples, rather than duplicates being collected in the field. It is recommended that duplicates be prepared in the field, from a single core, and submitted "blind" to the laboratory. The analysis of field duplicate soil samples will provide additional information regarding the variability of contaminant concentrations.</p> <p>It should be noted that field duplicate analyses <i>cannot</i> be used as a means for assessing laboratory accuracy. Accuracy can be determined only if the true concentration of a target analyte is known.</p>	<p>RESPONSE 2: As per the recent decision by the BCT, one soil duplicate sample will be collected per site and will be analyzed for the same analysis as samples, excluding the landfill sites.</p> <p>Accuracy was incorrectly defined here and has been eliminated from the statement.</p>
<p>3. <u>Section 7.2, Data Validation and Verification.</u> The text in Section 7.2 of the QAPjP states that 10% of the data generated will be validated. It is recommended that the QAPjP indicate how the 10% of the data slated for validation will be selected.</p>	<p>RESPONSE 3: 100% of data attained from field-base laboratory will be validated and has been corrected in Section 7.2.</p>

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<p>4. General. A discussion of the following topics should be added to the QAPjP:</p> <ul style="list-style-type: none"> • sample collection requirements (including analytical parameters for each matrix and a rationale for analytical parameters and matrices); • project data management scheme and standard record keeping procedures; • laboratory and field auditing protocols, criteria, frequency, reporting and follow-up/corrective action requirements. 	<p>RESPONSE 4:</p> <p>Sample collection requirements are described in WP and FSP as stated in Section 4.1.</p> <p>Found in Data Management Plan (DMP) as stated in Section 7.1.</p> <p>Found in Quality Control Management Plan (QCMP) as stated in Section 8.</p>
<p><u>COMMENTS</u></p> <p>1A. Section 2.1, Clean Organization; Figure 2-1, Project Organization; Section 3.2.1, Requirements for Data Measurement Objectives, Detection Limits. The text in Section 3.2.1 of the QAPjP discusses the Laboratory Coordinator. However, the responsibilities of this individual are not described in Section 2.1, and this individual's position within the project organizational scheme is not depicted in Figure 2-1. This discrepancy should be clarified.</p>	<p><u>RESPONSES TO COMMENTS</u></p> <p>RESPONSE 1A: Comment incorporated into Section 2.1.</p>
<p>1B. The individuals that are responsible for overseeing corrective action and preparation of quality assurance (QA) reports to management should be identified in Section 2.1 of the QAPjP.</p>	<p>RESPONSE 1B: Responsibilities listed under Quality Manager in Section 2.1.</p>
<p>2. Section 7.3.2, Procedures to Assess Data Precision, Accuracy, and Completeness. The "r" in the equation for determining percent data completeness in Section 7.3.2 of the QAPjP should be the total number of "planned" measurements.</p>	<p>RESPONSE 2: Correction incorporated into Section 7.3.2.</p>
<p><u>ENCLOSURE B</u></p> <p>Page 2-1. The CTO Leader for CTO-0059 is not responsible for the technical execution, oversight and project QC. These activities will be the responsibility of the individual CTO Leaders of the landfills and VOC source area activities.</p>	<p><u>RESPONSES TO ENCLOSURE B</u></p> <p>RESPONSE: Correction made to Section 2.1.</p>

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<p>Pages 2-1, 3-3. The CLEAN Organization text and flow chart (Figure 2-1) do not include the Laboratory Coordinator. The coordinator is responsible for the execution and oversight of all laboratory work and therefore should be included in this section.</p>	<p>RESPONSE: Correction made to Section 2.1.</p>
<p>Page 2-2. The acronym BEC represents Base Realignment and Closure (BRAC) Environmental Coordinator, not Base Environmental Coordinator. The acronym BCP represents Base Realignment and Closure (BRAC) Cleanup Plan, not Base Closure Plan.</p>	<p>RESPONSE: Correction made to Section 2.2.</p>
<p>Page 2-2. Section 2.3 should include a description of the role and authority of the Navy Remedial Technology Manager (RTM).</p>	<p>RESPONSE: A description of Navy RTM was incorporated into Section 2.3.</p>
<p>Page 3-3. 1st para., 2nd sentence. “. . . lowest possible detection limit of accurate precision will be implemented.” Is the intent to state accurate precision (sic)? Please clarify.</p>	<p>RESPONSE: A revision of Section 3.2.1 has been made to clarify.</p>
<p>Page 3-3. The descriptions and definitions under Field Measurements are not consistent with the descriptions elsewhere within this document and the Work Plan. For example, 2nd para. describes FID and PID instrument use as field measurements. However, on the following page these units are described as field screening devices.</p>	<p>RESPONSE: A handheld FID and PID will be used for field measurements to observe methane or organic compounds level and for qualitative field screening for VOCs, TPH.</p>
<p>Page 3-4. See previous comment. In addition, there are two definitions used interchangeably: 1) preliminary field screening and 2) on-site mobile laboratory or field-based laboratory. Later, the definitions change to qualitative and quantitative. Please use consistent terminology throughout and clarify what methods and analyses fall under each type.</p>	<p>RESPONSE: Corrections incorporated throughout QAPP with additional tables incorporated into Section 3 and Appendix A to clarify the field screening schemes.</p>
<p>Page 3-4. 3rd full para. The QAPP should include a detailed discussion of how confirmation would be measured. This information is only briefly discussed in the Work Plan.</p>	<p>RESPONSE: Confirmation is described in W/P but will incorporate into QAPP in Section 3.2.1.4.</p>

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<p>Page 3-4. 3rd full para. The text states that QA/QC for field screening is similar to Level D requirements. It is not clear if this refers to Preliminary field Screening or Mobile Laboratory Analyses.</p>	<p>RESPONSE: Mobile laboratory analyses will have QA/QC requirements similar to NFESC Level D.</p>
<p>Page 3-5. The text should include the definition of “. . . detection limits adequate for risk assessment purposes.” It would seem that detection limits would be adequate to meet PGRs. If that is the case then include the note.</p>	<p>RESPONSE: Statement changed to read detection limits would be adequate to meet PRGs in Section 3.2.1.3.</p>
<p>Page 3-5. The second sentence under 3.2.1.4 is redundant with the sentence which immediately follows.</p>	<p>RESPONSE: Correction made, however, Section 3.2.1.4 has become Section 3.2.1.5 with the addition of confirmation methods to Section 3.2.1.4.</p>
<p>Table 3-2 and Table 4-2 (notes). The acronym BOD represents Biochemical Oxygen Demand, not Biological Oxygen Demand.</p>	<p>RESPONSE: Corrections made to the appropriate tables and text; however, some references to EPA method 405 state “Biological” while other state “Biochemical”.</p>
<p>Table 3-2. The table should include a note that all methods are U.S. EPA except for Chromium hexavalent which is by Standard Methods for the Examination of Water and Wastewater-APHA/AWWA/WPCF.</p>	<p>RESPONSE: Corrected; however, hexavalent chromium will be analyzed using Method 7196 not SM17 3500.</p>
<p>Page 4-1. Section 4.3, 2nd to last sentence. All glass contains including VOA vials will be provided with Teflon « lined caps or Teflon « septa.</p>	<p>RESPONSE: Typo, correction made to Section 4.3.</p>
<p>Table 4-1 and Table 4-2. The footer of the tables is incorrect. See the comment above regarding Teflon « septa.</p>	<p>RESPONSE: Typo, corrections made to Tables 4-1 and 4-2.</p>
<p>Page 6-1. Section 6.1. The text should identify which QC samples will be used for the field screening program. It does not appear feasible to have the same level of QC for field screening as for off-site analyses. For example, will matrix spikes and matrix spike duplicates be analyzed in the field?</p>	<p>RESPONSE: Matrix spikes and matrix spike duplicates will be analyzed in the field by the on-site mobile laboratories. Method blanks and sample duplicates will be performed by both mobile laboratories and immunoassay test kits. Corrections added to Section 6.1.</p>
<p>Page 6-1. Section 6.1.1. 2nd para. Suggest revision of the 1st sentence to read, “Duplicates of aqueous samples will be . . .” and deletion of the sentence which immediately follows.</p>	<p>RESPONSE: Correction made to Section 6.1.1.</p>

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<p>Page 6-1. Section 6.1.2. Last sentence. Trip blanks cannot be used “. . . to detect any problems caused by sample handling and shipment.” Suggest revision as follows, “Trip blanks will be used to detect contamination introduced during sample handling and shipment.”</p>	<p>RESPONSE: Correction made to Section 6.1.2.</p>
<p>Page 6-2. 1st, 2nd, and 3rd paragraphs. The discussion of preservatives used in the field should be clarified. Clarify that all preservatives used will be included in the blanks; however, a separate blank for each class of analyses will be used. Thus, an HCl blank would be supplied for the VOCs and an H2SO4 blank would be supplied for TRPH.</p>	<p>RESPONSE: Preservative lots are QC checked by the CLEAN II laboratory prior to their addition to sample containers for the required methods.</p>
<p>Page 6-6. SOP 15 is listed on page 6-4. The summary of SOP 15 is absent and should be provided.</p>	<p>RESPONSE: SOP is deleted.</p>
<p>Page 7-2. The discussion related to precision and accuracy should not include the 3rd and 4th bullet items. Blanks are not used in the assessment of precision and accuracy. They are however, an integral part of the QA/QC program.</p>	<p>RESPONSE: Correction made to Section 7.3 with bullets #3 and #4 deleted. Blanks are discussed in Section 6.</p>
<p>Page 7-2. Section 7.3. The 2nd bullet item should include the words “. . . matrix spike . . .” between “. . . results from laboratory [insert] duplicates,”</p>	<p>RESPONSE: Correction made in Section 7.3.</p>
<p>Page 7-2. Replace the first sentence as follows, “Accuracy and precision of analytical techniques will be assessed through MS and MSD samples (respectively) prepared by the laboratory from field samples.”</p>	<p>RESPONSE: Correction made in Section 7.3.</p>
<p>Page A1-2. 1st para. The current investigatory approach proposes to use residential risk values only. Therefore, it appears that XRF will not be suitable and would not be used at all. Is this correct?</p>	<p>RESPONSE: XRF has been deleted and ICP will be used by the on-site mobile laboratory. An ICP description was added to Appendix A.</p>

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<p>Page A1-3. The text states that all immunoassay samples with detectable concentrations and a minimum of 5 percent of the nondetects will be further analyzed by the mobile laboratory or a fixed based laboratory. This statement is inconsistent with the discussions of other quantitative work presented on page 3-4.</p>	<p>RESPONSE: This statement is incorrect as stated and has been revised to clarify approach in Section 3 and Appendix A.</p>
<p>Page A1-3. The text interchangeably uses ppm and the definitive unit mg/kg. Please use mg/kg.</p>	<p>RESPONSE: Corrected.</p>
<p>Page A1-3. The 2nd to last sentence states that immunoassay kits would only be used when industrial RBCs (PRGs) are used for screening. Since the Work Plan does not identify industrial scenarios, it seems that the immunoassay kits would never actually be used as part of the Phase II work. Is that correct?</p>	<p>RESPONSE: Omicron immunoassay can reach 50 ppb for (in soils) PAHs. I am investigating this option still and may do a field study and compare immunoassay test results to GC/MS or HPLC results for PAHs. These levels would meet the PRGs for PAHs in soils.</p>
<p>Page A1-4. Last sentence of 1st para. The text states that "A minimum of 10 percent of the samples collected in the field and analyzed will be submitted to a certified CLP laboratory for confirmation." Other statements in this document and the Work Plan indicate that a minimum of 10 percent of the positive detects for analyses conducted in the mobile laboratory would be sent to an off-site laboratory. The sentence should be corrected to be consistent with the rest of the plans and the term "certified CLP laboratory" should be removed and replaced with "... state- and NFESC-certified. . ."</p>	<p>RESPONSE: The text has been rewritten to clarify the field screening approach and has incorporated the number of CLP confirmation samples for each site based on the June 6th meeting. The comment regarding state- and NFESC-certified laboratory has been incorporated throughout the QAPP.</p>
<p>Page A1-4. Table B-2 is referred to on this page. The table serves no discernible purpose and should be removed.</p>	<p>RESPONSE: Table B-2 has been deleted.</p>
<p>Page A1-6. 3rd para. The discussion of Method 8280 deviates from analytical methods to health and safety procedures. This deviation is not consistent with the preceding and following method discussions. Delete the 3rd, 6th and 7th sentences.</p>	<p>RESPONSE: Sentences have been deleted in Appendix A.</p>

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<p>Page A1-6. For the discussion of TTLC and STLC delete the 1st sentence. This sentence is incorrect in that it presupposes that hazardous constituents are leaching into groundwater and TTLC does not provide indications of leachability potential, only STLC can be used for that purpose. Suggestion for the combination of sentences 2 and 3 is, "The soluble threshold leachate concentration measurement determines those minerals/metals that are soluble under the Waste Extraction Test conditions and simulates the leaching process that can occur in a landfill."</p>	<p>RESPONSE: The suggestions have been incorporated into Appendix A.</p>
<p>Table B-1. Page B-10. Analysis of chromium hexavalent by SM17 3500 is a colorimetric procedure not by ICP. SM 3500 does not specify a detection limit and it is unclear where the 500 mg/lg and 500 mg/L detection limits were obtained. These detection limits are above the CAL-modified PRG of 200 mg/kg and 160 mg/L. EPA 218.6 analysis of chromium hexavalent by ion chromatography can achieve a detection limit of 0.3 mg/L. EPA 218.5 analysis of chromium hexavalent by GFAA can achieve a detection limit of 2 mg/L.</p>	<p>RESPONSE: Corrected. However, the CLEAN II Contract Laboratory to perform this analysis uses SW 846 Method 7196 with detection limits as: 0.2 mg/kg for soils and 0.02 mg/L for waters.</p>

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<p>Originator: Juan M. Jimenez Department of Toxic Substances Control</p> <p>To: Joseph Joyce U.S. Marine Corps Air Station - El Toro</p> <p>Date: May 5, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0210</p>
<p><u>GENERAL COMMENTS</u></p> <p>1. The RWQCB, Santa Ana Region comments are appended to the end of the Specific comments.</p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE 1:</p>
<p>3. Based on a telephone conversation with the Navy's technical manager on April 26, 1995 it has been decided that Preliminary Remediation Goals (PRGs) will be used in place of Risk Based Criteria (RBCs). Please revise the text as necessary.</p>	<p>RESPONSE 3: Revisions for PRGs have been made to text listing PRGs for residential, industrial, ambient air and tap water for the COPCs which can be found in Appendix B (Table B-1).</p>
<p>4. The users of this QAPP have to keep in mind the intended end use of the data to be collected: possible risk assessment input, possible no further action at this time, possible removal action and further delineation of nature and extent, among other things. Consequently the data must be of sufficient quality for the Team to make these decisions. There are three classes of compounds which pose a concern in terms of detection limits and the values which will be used for comparison, PRGs. These are PCBs, Dioxins and PAHs. The State recommends that the following approach be considered:</p> <p>If there is a history for the above mentioned COPCs then use the Best Available Technology (BAT) with the lowest detection limit obtainable. If there is no reason to suspect these COPCs are present, then proceed as outlined in the FSP.</p> <p>For example, if there is reason to believe that Benzo (a) pyrene is a chemical of concern, then use EPA Method 8310, HPLC. If not then EPA Method 8270 is sufficient.</p>	<p>RESPONSE 4: HPLC will be used to analyze for PAHs as recommended. In all cases, especially regarding the low PRG levels, the Best Available Technology approach will be implemented.</p>
<p>5. Regarding Figure 2-1, it would be very useful if the members of the BCT could get a list with the names and phone/fax numbers of those individuals who currently hold the positions. This list could be updated on an as needed basis.</p>	<p>RESPONSE 5: A list of names with phone/fax numbers of project staff will be generated once positions are filled.</p>

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<p><u>SPECIFIC COMMENTS</u></p> <p>Page 3-3, para 1, lines 1-4. The DTSC requests that the Navy utilize the high-performance liquid chromatography (HPLC) method (U.S. EPA Method 8310) whenever Polynuclear Aromatics Hydrocarbons are the COPC. There is approximately a two order of magnitude difference in the detection limit as compared to the CLP gas chromatography/mass spectroscopy (GC/MS). See General Comment No. 4.</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p>RESPONSE: See Response No. 4.</p>
<p>Page 3-3, para 1. What are the requirements set up by the RBCs to achieve the specified limits? This particular sentence could use some clarification.</p>	<p>RESPONSE: The statement has been corrected to address PRGs.</p>
<p>Page 3-2, para 1, lines 10-11. The reference to Table 3-1 in this paragraph is incorrect. Table 3-1, on page 3-4, delineates Tolerance Limits for Field Measurements. Please revise the reference and include such a table.</p>	<p>RESPONSE: Table B-1 is the appropriate table to reference and has been changed in this paragraph.</p>
<p>Page 3-4, para 4, line 5. How will the percentage of samples submitted to the fixed based laboratory vary? Specify the criteria which will be used such that the individual in the field can make the decision.</p>	<p>RESPONSE: The percentage of samples submitted to fixed-based laboratory has been predetermined (June 6th meeting) and all decisions made regarding this issue have been incorporated into Section 3 and Appendix A.</p>
<p>Page 3-8, Table 3-2. Acceptance limits for the relative percent difference and percent recovery for the following parameters should be provided:</p> <p><u>Aqueous Samples:</u> TPH (8015M), PCBs screening (4020), Gross Alpha/Gross Beta (9310, Total Kjeldahl Nitrogen (353.3), Total Phosphate (365.2), Total Cyanide (335.2), and Total Organic Carbon (415.1).</p> <p><u>Solid Samples:</u> TPH (8015M), Chromium Hexavalent (SM17-3500D), Total Cyanide (335.1/335.2), Total Phosphate (365.2) and Total Organic Carbon (9060).</p>	<p>RESPONSE: CLEAN II laboratory QA manual limits have been added for these parameters as the methods do not include these parameters.</p> <p>Additionally, PCB screening will not be included in field screening scheme due to the method's inability to satisfy residential PRG levels.</p>

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<p>Pages 4-2 to 4-4, Tables 4-1 and 4-2. For groundwater and surface water samples, the holding times for Semivolatiles (8270), Explosives (8330A), Herbicides (8510), Dioxins/dibenzofurans (8280) and Pesticides/PCBs should be seven (7) days to extract and forty (40) days to analyze. The holding time for Hg in plastic containers should read thirteen (13) days and thirty eight (38) days in glass containers.</p>	<p>RESPONSE: Corrections made to Tables 4-1 and 4-2.</p>
<p>Page 6-3, para 4. Section 6.3 states that the calibration and the continuing calibration will be performed as required by the EPA methods. The calibration and the continuing calibration should be documented and records maintained. Calibration and working standards should be traceable to a certified reference standard such as NBS, EPA or the highest quality standards available. A logbook should be maintained to document the traceability of the standards.</p>	<p>RESPONSE: Comments added to Section 6.3.</p>
<p>Page 7-1, para 5. The criteria for should include the verification of the instrument calibration.</p>	<p>RESPONSE: Comment added to Section 7.2.</p>
<p>Page A1-2, para 1, line 2. Is ICP a field screening option?</p>	<p>RESPONSE: Yes, ICP is a field screening option and has been incorporated to Section 3 and Appendix A.</p>
<p>Page A1-6, para 5, line 1-2. The heading "Total Threshold Leachate Concentration/Soluble Threshold Limit Concentration" could be revised to Toxicity characteristic Leaching Procedure (TCLP)".</p>	<p>RESPONSE: The heading has been changed as suggested.</p>
<p>Page B-1, etc. Please replace the RBCs with PRGs. If its not too much trouble it would be useful to include the table for industrial PRGs as a separate column.</p>	<p>RESPONSE: PRGs have replaced RBCs throughout the text and tables of the QAPP.</p>
<p>Pages B9 to B10, Table B-1. The method and the method numbers provided for the metals were not clear, particularly the method numbers listed as 200 series. Appropriate numbers such as method 200.7 (ICP), 200.8 (ICP-MS), 200.9 (GFAA), etc. should be listed.</p>	<p>RESPONSE: Comments incorporated into Table B-1.</p>

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<p>The appropriate method to obtain the proposed detection limit listed for antimony, arsenic, beryllium, and thallium in water is ICP-MS (200.8). ICP-MS has the lower detection limit for these metals as compared to ICP and GFAA.</p>	

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<p>Originator: Nars Ancog (Code 1852.NA) Southwest Division</p> <p>To: Jason Ashman Southwest Division</p> <p>Date: March 20, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0210</p>
<p><u>GENERAL COMMENTS</u></p> <p>a. <u>Section 3.2, Requirements of Data measurement Objectives:</u> Specify the appropriate federal agency whose approval the laboratory must successfully obtain in order to comply with the requirements of the Navy Laboratory Quality Assurance Program. Additionally, specify the 1988 NEESA (no NFESC) document where applicable QA/QC requirements are outlined.</p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE a: The Navy Contract Representative (NCR) is the federal agency whose approval must be obtained and the NFESC 1988 document "Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program" which have been incorporated into Section 3.2.</p>
<p>b. <u>Section 3.2.1, Detection Limits:</u> Because El Toro is an NPL base, CLP methods are mandatory for a number of analyses including semi-volatile (GC/MS) in which PAHs are among the analytes. However, for PAHs, detection limits are generally higher when done with GC/MS compared to EPA 8310 (HPLC). If EPA 8310 must be used to achieve lower detection limits, provide an explanation on how the qualitative identification of PAHs can be assured since HPLC is an inferior qualitative tool compared to GC/MS. Additionally, a modification of a CLP method or a substitution in instrumentation requires appropriate regulatory concurrence.</p>	<p>RESPONSE b: DTSC has recommended HPLC Method 8310 for PAHs. No method modification is necessary at this time; however, appropriate regulatory concurrence will be obtained if method modification is necessary. In general, the Best Available Technology with the lowest detection limits obtainable will be applied to satisfy PRGs.</p>
<p>c. <u>Section 3.2.1.1, Field Measurements:</u> Field measurements generally involve manual recording of instrument readings or test results. Please describe how this will be accomplished in compliance with acceptable field practices. If field documentation is discussed in a certain section in this document please reference that section accordingly.</p>	<p>RESPONSE c: Field measurements during field investigation will be recorded in the field logbooks as discussed briefly in Section 5.1.1 of the QAPP but also discussed further in the FSP.</p>
<p>d. <u>Section 3.2.1.2, Field Screening:</u> Unless the field-based laboratory has all the required instrumentation, staffing and quality control to conduct confirmation of all the analytes mentioned in this section, confirmation should Not be done in an on-site mobile laboratory or field-based laboratory. All "Positive" samples should be confirmed by CLP methods, as required, unless regulatory concurrence is obtained to deviate from this requirements.</p>	<p>RESPONSE d: According to the BCT tech meeting on June 6, a minimum of 20% or a predetermined number of samples from field screening methods must be confirmed by a fixed-based state- and NFESC-certified laboratory using CLP analytical methods. The recent decisions to the confirmation scheme have been incorporated into the QAPP text along with some additional tables.</p>

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<p>e. <u>Section 3.2.1.3, Fixed-Based Laboratory Analysis:</u> Specify the 1988 NEESA document where recommended detection limits for each parameter is listed.</p>	<p>RESPONSE e: Detection limits are not listed by parameters in the NEESA document (see Response A); however, CLP methods are provided. Methods were chosen based on detection limits that would satisfy RBCs/PRGs for the chemical of potential concern at MCAS El Toro.</p>
<p>f. <u>Section 7.2., Data Verification and Validation:</u> There are different levels of data validation. While data generated from CLP methods are automatically validated at level D, non CLP methods are not. Please specify the level of data validation proposed for non CLP methods.</p>	<p>RESPONSE f. Data validation for non CLP methods will follow the Level D requirements.</p>
<p>g. <u>Appendix A - Laboratory Analytical Methods:</u> (i) Portable Gas Chromatograph: A portable GC equipped with only a PID to screen TPH is not recommended. Low levels of TPH can easily be missed. Recommend employing a portable GC with dual detectors consisting of PID for cyclic or aromatic compounds and FID for the presence of TPH.</p>	<p>RESPONSE g (i): Portable gas chromatograph will be equipped with either a FID, PID or an ECD (or a combination) for TPH, aromatic and halogenated compounds, respectively. An accidental deletion was done regards to this.</p>
<p>(ii) Thermal Desorption GC/MS: TD GC/MS is not recommended for quantifying PCBs because of its very high detection limits. Please explore other options.</p>	<p>RESPONSE g (ii): TD GC/MS was one of several options considered for PCB screening with detection limits at 100 ppb. However, if the field screening devices cannot satisfy the residential PRGs for certain COPCs then, all samples will be submitted directly to the fixed-based laboratory for analysis by the appropriate CLP analytical methods.</p>
<p>(iii) Fixed-Based Laboratory Analysis: Level D can either be an analytical quality control level or a level of data validation. Please clarify. Additionally, not all analyses employ CLP methods. Will NFESC level D data packages still be used? If not, specify.</p>	<p>RESPONSE g (iii): Level D will be applied to both analytical quality control level and the data validation since MCAS El Toro is an NPL site.</p>