



# Department of Toxic Substances Control

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HUNTERS POINT  
SSIC NO. 5090.3



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December 18, 2000

Commanding Officer  
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Attention: Richard Mach

DRAFT SAMPLING AND ANALYSIS PLAN OVERVIEW, PARCEL C SOIL  
SITE DELINEATION, HUNTERS POINT SHIPYARD, SAN FRANCISCO,  
CALIFORNIA

Dear Mr. Mach:

The Department of Toxic Substances Control (DTSC) has completed review of the above-mentioned document for the Parcel C Time Critical Removal Action (TCRA). DTSC would like to reiterate its position that it is inappropriate to conduct such a large scale of cleanup under a time-critical removal action. Our comments for the draft document are as follows:

Draft Sampling and Analysis Plan Overview, Parcel C Soil Site  
Delineation, Hunters Point Shipyard, San Francisco, California,  
DS.00111.15693 (SAP)

The SAP, dated November 16, 2000, was prepared for the Department of the Navy, Southwest Division, Naval Facilities Engineering Command, San Diego, California (Navy) and was received on November 20, 2000. The SAP was prepared by Washington Group International, Inc. and Tetra Tech EM Inc.

## General Comments

1. Pre-excavation sampling. As discussed in meetings with the Navy and other agencies, DTSC has not approved pre-excavation sampling strategy. As a matter of consistency, we reserve the right for the approval of this strategy until the Parcel B Remedial Design Amendment Revision

1 is approved.

2. Navy document. The SAP should be presented as a Navy document, not as a Base Realignment and Closure Team (BCT) document. For example, the draft RMR report was not approved by agencies. Therefore, reference to the RMR report conclusions in a manner that implies BCT concurrence is potentially misleading. Such references should be deleted. (For more examples, see SAP Overview comments on Table 1 and on page 2, paragraph 1.)

3. Soil to Groundwater. The potential for soil contamination to affect groundwater has not been evaluated and is not considered in this SAP. This is a data gap which will need to be addressed.

4. Chemicals of Potential Concern (COPCs). The fact that the Navy and DTSC do not have the same definition of "COPCs" has been discussed throughout the RMR process. DTSC defines COPCs as: chemicals which exceeded risk-based criteria, breakdown products of chemicals which exceeded risk criteria (e.g., volatile organic compounds (VOCs)), chemicals associated with other compounds which exceeded risk criteria (e.g., metals, polynuclear aromatic hydrocarbons (PAHs), BTEX compounds), and total petroleum hydrocarbons (TPH) which exceeded TPH criteria.

Despite the lack of agreement on the definition of COPCs, the Navy has responded to agency requests by including analytes but which the Navy does not consider to be COPCs. As a pragmatic approach (under the assumption that agreement will not be reached regarding the definition of COPCs), DTSC will not provide comments on the tables in this document which list the Navy's COPCs. Instead, the complete analytical program proposed will be reviewed. For this purpose, Table 2 of the Field Sampling Plan (FSP) will be reviewed since Table 2 is the best representation of the analytical program proposed. (That is, FSP Table 2 will be reviewed in lieu of Table 1 of the SAP Overview and (SAPO) and Table A-2 of the Quality Assurance Project Plan (QAPP)).

DTSC's recommendations regarding the proposed analytical program will be given under Table 2 of the FSP, below.

Please note that DTSC is not approving the Navy's list of COPCs.

For the sake of brevity, discrepancies that exist between tables and between tables and the Navy's responses to DTSC's comments in Appendix A will not be itemized in these comments.

5. Dropping contaminants of potential concern (COPCs). The SAP proposes that COPCs should be dropped during pre-excavation

delineation sampling when a compound is below SAP criteria on a given wall (or floor) of an excavation. DTSC's position is that the analytical program proposed in Table 2 of the FSP (including the recommendations of DTSC in this memorandum) should be applied to all samples taken at a site. That is, dropping of COPCs is not allowed as excavation proceeds. This position is supported by DTSC's toxicologists with regard to the potential for cumulative risks, as has been discussed in recent meetings. Moreover, the characterization of many sites is not complete, so dropping of analytes is not acceptable.

The Navy's proposal for meeting point-by-point removal action cleanup goals does not address whether the cumulative risks at a site are acceptable. That is, the removal action cleanup goals assume the presence of only one compound its exceeding risk-based criteria. Discussions relating to determining cumulative risks are ongoing.

6. List of analytes for methods

During the RMR process and subsequently, there has been a need for clarity regarding the Navy's intended list of analytes for the methods proposed. DTSC has requested that the complete list of analytes for each method be tested for. In this document, there is still a lack of clarity regarding the analytes proposed for each method. To resolve this issue, please include a list of analytes for each method. Some examples are provided below.

The FSP Figures 25.01 through 64.01 note that: "Except for metals COPCs, samples will be analyzed for the analytical group for the COPCs (for example, where benzo(a)pyrene is a COPC, samples will be analyzed for PAHs [polynuclear aromatic hydrocarbons])." The method tests for multiple PAHs and other semi-volatile compounds. DTSC assumes that results for the complete list of method analytes will be reported.

Page 7 of the FSP says: "The contracted laboratory will analyze the samples for the excavation-specific COPCs listed in Table 1 of the accompanying SAP Overview." This statement suggests a more restrictive analytical program than the statement in the preceding paragraph. Please expand the statement appropriately.

The QAPP notes (CLP organics, page D-4) that, for full data validation, the target compound list identification and tentatively identified compounds (TICs) are required. This required data should all be included in the field report. Compounds (including TICs) which are in exceedence of risk-based criteria should be added to the COPC list.

7. Waste profiling. Waste profiling results should be reviewed and any additional compounds measured above risk-based criteria should be

added to the COPCs. A statement to this effect should be added to the SAP.

8. Risk-based screening criteria and TCRA "cleanup goals."

Risk-based criteria (i.e., USEPA's preliminary remedial goals (PRGs) and more conservative California modified values) should be used as screening criteria during investigation and pre-excavation sampling.

The proposed TCRA "cleanup goals" (QAPP Appendix 1) are less conservative for some compounds (e.g., PAHs), and are not acceptable as screening criteria. Moreover, the term "cleanup goals" should be reserved for later in the remediation process. At the minimum, the term "removal action cleanup goals" should be used throughout the document.

Figures 25.01 through 64.01 use the proposed TCRA cleanup goals as screening criteria. As a result, for example, benzo(a)pyrene results greater than .33 mg/kg are posted but results greater than the residential PRG (with produce) of .032 mg/kg are not posted.

With regard to the proposed TCRA cleanup goals, please verify that all compounds exceeding risk-based criteria in Parcel C have been included on the list. At least three compounds exceeding criteria are not included on the list: 2-methyl naphthalene, organic lead, and 3,3-dichlorobenzidine. TPH screening criteria should also be included, with a footnote that TPHs are not CERCLA contaminants.

Include in the text an explanation of how the table of TCRA "cleanup goals" was created.

9. "Non-volatile organic compound (Non-VOC)" sites. DTSC has previously commented that the terminology of "non-VOC" sites is not acceptable (e.g., SAPO page 1, paragraph 1). The terminology is misleading for sites: where non-aqueous phase liquids exist or are suspected, where pipelines carried VOCs, or where groundwater is contaminated with VOCs. This terminology should be deleted.

In this SAP, the Navy proposes sampling for non-VOC analytes only at some sites where VOC contamination may exist. The Navy proposed that VOC sampling for these sites will be conducted under different programs--either under treatability studies (TSs) for chlorinated compounds, or under the corrective Action Program (CAP) of the Regional Water Quality Control Board (RWQCB).

It is acceptable to DTSC that VOC sampling is conducted under different programs. However, DTSC believes that in areas where VOCs are suspected, they should be added to the proposed program (as has been done for some sites on FSP Table 2).

The complete data set (both non-VOC and VOC analyses) will need to be combined for review in the future.

10. Polynuclear aromatic hydrocarbons (PAHs). Regarding PAHs, the text should include an explanation of 1) why only sites with detection limits (DLs) of 3 mg/kg or higher are included for re-sampling (that is, explain why all sites with DLs greater than the risk-based goals are not included for re-sampling), and 2) why sites with results between the proposed removal action cleanup goals and the PRGs are proposed for re-sampling.

The text should include an explanation of why an elevated detection limit is proposed for PAHs.

The proposed "removal action cleanup goal" should be proposed as either the risk-based PRG or the detection limit or .33 mg/kg, whichever is lower. For some sites, an elevated detection limit is not a problem, and those sites should be remediated to risk based values.

11. Manganese (Mn). The Navy proposes that sampling be postponed at sites with manganese only as a COPC, while evaluation of Mn as a background compound is ongoing. DTSC agrees that sampling at these sites may be postponed, pending resolution of Mn-as-background issues.

Mn sampling will be conducted for sites with multiple contaminants including Mn. However, it is not clear how the Navy proposes to use the Mn data in making its arguments. Please note that DTSC's RMR comments indicated that Mn in chert should be considered in a manner similar to nickel in serpentinite. That is, regressions of Mn against other metals should be evaluated to determine if an association of metals can be identified for naturally occurring Mn. If it is the Navy's intention to pursue this line of argument, Mn regressions should be performed prior to sampling in order to determine if other metals (e.g., iron) should be added to the list of analytes.

12. Navy's response to DTSC's comments (R2C). In their R2C, the Navy should refer to exceedences of risk-based criteria, not to the proposed removal action cleanup criteria.

DTSC will not respond point-by-point to the Navy's R2C (Appendix A of the SAPO). Instead, site specific recommendations are given below under FSP Table 2.

13. USEPA comments. The Department of Toxic Substances Control (DTSC) agrees with the United States Environmental Protection Agency's (USEPA's) comments, with the understanding that some issues are still under review by USEPA. For the sake of brevity, USEPA's comments are not repeated here.

## Sampling and Analysis Plan Overview

1. Page 1. Paragraph 1. The intent of the last part of the last sentence is not clear: "...while providing a template for successive actions at HPS, is not to be solely applied to sampling activities conducted at the Parcels." This document should apply to Parcel C only, as in the first phrase of the sentence: "The SAP details requirements specific to Parcel C." References to other parcels is not appropriate and should be deleted.
2. Page 1. Paragraph 3. Change "Because of those investigations . . ." to "Due to past site activities . . ."
3. Page 1. Paragraph 3. The text mentions excavations, and handling and transporting of waste. The work plan related to these activities has not been received at DTSC.
4. Page 2. Paragraph 1. The draft RMR report was not approved by agencies. Therefore, reference to the report conclusions in a manner that implies BCT concurrence is potentially misleading. Please revise the text as appropriate. Table 1 is discussed in this paragraph. However, Table 1 should be presented as the Navy's recommendations, not the Base Realignment and Closure Team's (BCT's) recommendations. This approach was agreed upon at the final RMR meetings. (Additional comments on Table 1 are provided below.)
5. Page 2. Paragraph 1. The Navy proposes that only six non-VOC sites will be reported on in a revised feasibility study (FS). It is DTSC's position that all sites identified in the FS should be updated in the revised FS, as discussed in BCT meetings. This is necessary for adequate tracking of sites in the administrative record.
6. As excavations expand and coalesce, the list of analytic methods should expand to include the lists of analytical methods from all excavations involved. The Navy's proposal is consistent with this approach for excavations which coalesce at the first step-out. General Comment 5 also applies to coalescing excavations.

### Table 1: Chemicals of Potential Concern in Soil Remediation Areas in Parcel C

- 1 Column 5. The draft RMR report was not approved by agencies, as noted above. Therefore, reference to conclusions of the report in a manner that implies BCT concurrence is potentially misleading. Table 1 should be presented as the Navy's recommendations: this is the

approach that was agreed upon at the RMR final meetings. The column "BCT RMR recommendations" should be deleted.

2.1 Column 7. Chemicals of Potential Concern (COPCs). Similarly, the column titled: "Chemicals of Potential Concern based on Risk Management Review Process" is misleading in that it implies BCT concurrence. The table actually represents the Navy's COPCs for this SAP. DTSC's concerns are not fully represented. (DTSC's COPCs are discussed in Appendix A.) The phrase "based on the risk management review process" should be deleted. Alternatively, DTSC's concerns should be fully represented.

DTSC's recommendations for analyses on a site-specific basis are provided below, under FSP, Table 2.

2.2 Volatile organic compounds (VOCs) have been identified as COPCs at some sites but are not listed in this table. For the table to be complete, VOCs should be listed as COPCs, and the table should include a notation for those sites where VOC analyses will be conducted in TS or CAP investigations, and for those sites where field screening for VOCs will take place.

2.3 Groundwater. The list of COPCs is not complete because threats to groundwater due to soil contamination have not been evaluated. However, COPCs were noted for several sites even though soil sources to groundwater have not been fully investigated.

2.5 The table (and the corresponding table in the QAPP) does not include all sites or all compounds which are proposed for sampling, which is potentially confusing. A preferred approach would be to have all sites listed and all compounds exceeding risk-based criteria listed, and the complete list of proposed analytical methods and field screening. This approach would represent the actual proposal more accurately, and side-step discussions regarding the definition of COPCs. Moreover, the current table under-represents the Navy's efforts.

3.1 Column 8. Planned Analyses. Change title to read: "Removal Action: Planned Analyses."

#### Appendix A

1. Encore sampling. Please correct preservation requirements for Encore sampling to be consistent with HML SOP No. 732-S, Section 3.4. Note different requirements (e.g., size of samples, etc.) for low level (<.2 mg/kg) and high level (>.2 mg/kg) sampling. Both low and high level

requirements should be included on the table. Note that 114 days holding time for TPH is incorrect.

2. Comments on Tetra Tech SOPs have been previously provided and are not repeated here.

#### Appendix B

1. For clarification, please note that DTSC did not ask for the chromium report to be included.

#### Appendix C

1. General comment. This appendix is a "data dump" of 152 pages of exploratory excavation (EE) confirmation samples. The data has not been previously available, and as yet has not been reviewed by agencies.

The data is difficult to evaluate in the manner in which it is presented: hence, evaluation of the data was considered to be beyond the scope of this review. The data should be posted on figures that illustrate the EE, and associated remedial investigation (RI) data.

The data should be compared to risk-based screening criteria, and exceedences of the criteria should be noted as such. Indicate for each location whether residential or industrial goals apply.

Any additional COPCs that are discovered through the evaluation process should be added to the COPC list. In the COPC list, please note any COPCs identified during review of EE data.

2. Please explain what the column "Removal" means. Have these samples been removed?

3. Correct the title page of Appendix C to indicate that it contains 152 pages.

4. Correct the table to appropriate significant figures.

#### **Field Sampling Plan (FSP)**

1. Sidewall sampling. Please note that the length of the sidewall will be measured from the base of the slope, on the floor of the excavation.

2. Page B-13. Field judgement calls relating to the need for additional samples should not be limited to TPH and VOCs only. Please rephrase to be more inclusive (here and elsewhere in the document).

#### Table 2: Sample Collection Locations and Analyses for Parcel C

##### General Comments

1. Please note that for the purposes of this review, it is assumed that the complete list of analytes for each method will be tested for. For

example, all BTEX compounds will be tested for when the Navy has listed "benzene" on this table.

2. Due to time limitations, RI data for the Navy's "new" sites (i.e., sites not included in the RMR process) were not reviewed. It is assumed that all exceedences of risk-based criteria will be included in the analytical program for these sites. Describe how new sites were discovered by the Navy: were all the RI data screened?

3. Please confirm that TPH/VOC field screening is included for all sites with suspected TPH or chlorinated VOC contamination in soil or groundwater.

4. Please indicate sites which either 1) failed the nickel/cobalt screen, or 2) for which the nickel/cobalt screen does not apply because cobalt exceeds HPAL.

5. Change column heading "benzene" to "BTEX." Make other changes as appropriate.

6. Confirm with the Regional Water Quality control Board that the organic lead method cited is still the recommended method.

#### Site-Specific Comments

The following comments are DTSC's site-specific recommendations regarding the Navy's proposed analytical program.

#### Page 1

To IR25, PA46TA11 (DM3826): PCBs.

To IR25, PA50TA06: Cr, CrVI, PAHs, TPHe, TPHp, TPH/VOC screen.

To IR46B013, add PAHs.

For IR25MW16A, clarify which analysis will test for 2-methyl naphthalene.

#### Page 3

Error. IR site designations in column 1 are incorrect for lines 3 through 16.

#### Page 4

To PA28B063, add Mn.

To 28-6, add PA28SS81: Mn.

For IR28B237, add TPHe and TPHp, and clarify why sampling is proposed at 8 feet only for contamination at the surface.

For IR28MW273F, clarify why sampling is proposed at 8 feet when contamination extends to 10 feet.

#### Page 6

For IR28B264, clarify why sampling is proposed at 8 feet when contamination exists at 8.75 feet.

For IR28MW298A, clarify which analysis will test for 3,3-dichlorobenzidine.  
Figure 28.22 (IR51B025 and PA51SS15) is not included.

Page 7

For IR28B223, clarify why sampling is proposed at 8 feet if contamination exists at 9.75 feet.

Page 8

To IR28B225, add Cr, CrVI, Mg.

Page 9

For DM9330, add PA51SS16: Mn, Zn, PCBs, TPHe, TPHp, TPH/VOC screen.

Page 10

Error. For DM9420, change IR28B098 to IR28B096. And change DM9420 to DM9420A.

To IR28B096, add TPHe, TPHp, TPH/VOC screen.

To DM9420, add IR28B109 (DM9420B): PAHS, TPH/VOC screen.

Page 11

To IR28B199, add PAHs.

For DM9532, surface contamination with PCBs is indicated. Add TPHe, TPHp, TPH/VOC screen.

Page 12

To IR28B121, add TPHe, TPHp, VOCs, TPH/VOC screen.

To IR29B054, add As.

Page 13

To IR29B070, add As.

For IR29TA52, clarify why sampling is proposed at 8 feet when contamination exists to 9.75 feet.

Page 14

To IR29-2/IR29-4, add PA29SS34: PAHs (check for other exceedences).

To IR29, add IR29TA04: PAHs (check for other exceedences).

To PA29B017, add PCBs.

Page 16

To PA49TA01, add Cr, CrVI, Mg.

Page 17

To IR 30, add IR29B007: PAHs, TPH/VOC screen.

To S209-S1, add PCBs.

To PA30SS04, add Cr, CrVI, Mg.

Page 18

To IR30B030, add PAHs.

Page 19.

IR site designations in column 1 are incorrect for lines 3 through 21.

For IR29B081, add Cr, CrVI, Mg, Zn.

To IR30-1, add PA29SS27: Cr, CrVI, Mg, Mn, Zn, PCBs, TPHe, TPHp, TPH/VOC screen.

Page 20

To PA30SS09, add BTEX, VOCs.

Page 21

To IR30B029, add SVOCs, Pesticides/PCBs.

To 30-1, add PA30B12: Cr, CrVI, Co, Cu, Mg, Mo, Ni, Zn, BTEX, TPHe, TPHp, VOCs, TPH/VOC screen, SVOCs, Pesticides/PCBs.

Page 21

To EE11A01, A02, A04, A05, add TPHe, TPHp, TPH/VOC screen.

To IR58B022, add Ni.

Page 23

To IR28B109, add TPH/VOC screen.

### Figures

1. Some comments on figures are included in the comments on Table 2 and are not repeated here.
2. Weird symbols are used for sampling locations on some figures (e.g., 28.10. Through 28.13).

### **Quality Assurance Project Plan (QAPP)**

1. As for previous QAPPs, DTSC defers to USEPA for detailed QAPP review.
2. The document was prepared by Tetra Tech EM Inc. and Washington Group International, Inc. Tetra Tech's roles and responsibilities are delineated in the QAPP, but no mention is made of Washington Group International, Inc. Please explain their relationship to the project.

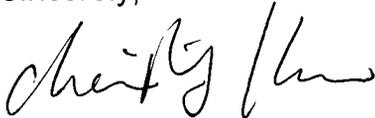
Appendix 1

Table 1-1.

1. Title. The title refers to Parcel D. Please verify that this is the correct table for Parcel C.
2. Please confirm that Parcel C data has been screened for all exceedences of risk based criteria and that all compounds in exceedence of risk-based criteria have been included in this table..
3. Footnote 1. Change "Cleanup goals" to "PRGs" (because "cleanup goals" are not all risk-based as incorrectly stated). Add a note that some cleanup goals are determined by reporting limits and are greater (i.e., less conservative) than risk-based values: identify the DL-based "removal action cleanup goals" by a symbol.

If you have any questions, Please contact me at (510) 540-3822.

Sincerely,



Chein Ping Kao, P.E.  
Senior Hazardous Substance Engineer  
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