



# Department of Toxic Substances Control

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SSIC NO. 5090.3



Gray Davis  
Governor

April 11, 2003

Ms. Glenna Clark  
Department of Navy  
Southwest Division  
Naval Facilities Engineering Command  
1230 Columbia Street, Suite 1100  
San Diego, CA 92101

## **DRAFT FINAL REMEDIAL INVESTIGATION REPORT, OPERABLE UNIT 1, SITE 14, ALAMEDA POINT, ALAMEDA, CALIFORNIA**

Dear Ms. Clark:

The Department of Toxic Substances Control (DTSC) has reviewed the above referenced document dated February 28, 2003. Our comments are attached. The comments provided by the Department of Fish and Game concerning natural resources issues are also attached. Should you have any questions, please contact me at 510-540-3767.

Sincerely,

Marcia Liao, Ph.D., CHMM  
Hazardous Substances Engineer  
Office of Military Facilities

enclosure



Mr. Glenna Clark

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cc: Michael McClelland, SWDiv  
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Craig Hunter, Tetra Tech

**DTSC COMMENTS**  
**DRAFT FINAL REMEDIAL INVESTIGATION REPORT**  
**SITES 14 AND 15**  
**ALAMEDA POINT, ALAMEDA, CALIFORNIA**

**GENERAL COMMENTS**

1. The criteria used in this Remedial Investigation (RI) to select constituents of concern (COCs) for discussion of the sources and the nature and extent of contamination is: (1) 10 percent detection frequency, (2) a maximum detected concentration of more than the USEPA Region IX Preliminary Remedial Goal (PRG) for residential soil, and (3) background comparison. It is conceivable that certain hot spots (i.e. releases or potential sources of contamination) may get overlooked if (1) they are, for one reason or another, not sampled or not analyzed for appropriate parameters, (2) they are "diluted" by large numbers of non-detects which are due to high detection limits, or (3) they are obscured by samples collected from "cleaner" areas such as areas where little or no contamination are anticipated (e.g. offices), areas at a distance from the source of release, or areas where contaminants have migrated away (e.g. volatile organics in surface soil) or are yet to migrate to (e.g. PCBs in soil at depth). Biased conclusions could therefore be reached if such criteria are followed.

For example, this RI established polynuclear aromatic hydrocarbons (PAHs) and arsenic as the COCs for Site 14 soil. Despite elevated levels of volatile organic compounds (VOCs) in the groundwater, VOCs were not considered COCs for the soil because none of the VOCs was detected greater than 10% of the time and for those detected none exceeded the PRGs. By not identifying VOCs as the COCs for the soil, the RI essentially concluded that there had been no or little VOC releases to the soil and the VOCs in groundwater beneath Site 14 was un-related to site activities.

An examination of the VOC data (Appendix D), however, reveals that soils at M-101C and M-113A show elevated levels of VOCs which, though still below the PRGs, were considerably higher than those detected at other locations across Site 14. This suggests that areas around M101-C and M113A may have experienced some release of VOCs and further investigation is warranted (see Comment #2).

It is our opinion that all detected constituents are COCs until determined otherwise. For discussion of the sources and the nature and extent of soil COCs, we recommend the following: 1) Determine if all areas of concerns (AOCs) based on past site activities have been sufficiently sampled and analyzed, 2) Plot all detected concentrations on a map, examine them spatially and in relation to the AOCs to locate the source of release and approximate the extent of impact (for inorganic metals it should be all concentrations detected above background). Data from different depth intervals may be plotted separately, if appropriate, and 3) Review relevant groundwater data and compare the soil plots with the

groundwater plume maps, if available, to determine if the groundwater contamination is related to the soil.

We believe no detected concentrations should be excluded because of low detection frequency or because they are below the PRGs. PRGs, as often reiterated in agency comments, are just screening numbers. For any given chemical constituent, being below PRGs does not mean its presence is below the risk level. This is because health risk is cumulative and takes into account all chemicals in the medium the receptors are exposed to. A given chemical is seldom, if ever, the only constituent being considered for the medium.

We also believe sufficient attention should be given to non-detects. As stated earlier in this comment, some non-detects could come from samples collected at "cleaner" areas or are a result of high detection limits. The sampling locations should therefore be evaluated, laterally as well as vertically, for their appropriateness. For non-detects that are a result of high detection limits, we recommend that, at a minimum, those with a detection limit higher than the PRGs should be examined, analyte by analyte, to determine if there is sufficient reason to believe this chemical is indeed not present (e.g. this chemical is not expected to be present given the past site activities and the high detection limit is not prevalent or systematic for this particular analyte).

2. M101C and M113A are located in the southern portion of Parcel 15 at Site 14. An examination of Figures 3-2, 3-6 and Appendix D indicates that soil from 19 locations across Parcel 15 were sampled but only two, M101C and M113A, were analyzed for VOCs. In both locations, elevated VOCs were found at 2-3 and 5-6 feet below ground surface (bgs).

Reportedly, the southern portion of Parcel 15 was used for equipment storage and parking as part of the operation at Building 528 (a heavy equipment and vehicle maintenance shop) and GAP 9 (a waste generation accumulation point). Building 528 and GAP 9 are located at Parcel 17A to the east, or upgradient, of Parcel 15.

Like Parcel 15, VOC sampling at Parcel 17A was limited. Out of 21 locations where soil samples were collected, only 7 were subject to VOC analysis. No VOCs were detected. But an examination of the sampling locations indicates that four of the samples, GAP9B-1 through GAP9B-4, were collected at the surface (0 to 0.5 ft bgs) casting doubt on the relevance of the data. Another one, 017-SNPSIS-001, was collected next to Building 83, an office where VOCs are not a concern ordinarily. Groundwater data, on the other hand, were omitted for S14-DGS-DP 14 through 16, three direct push points placed immediately down gradient from or in the vicinity of GAP 9 (see Appendix D).

Given the nature of the past activities and the lack of relevant soil and groundwater data, it is our opinion that additional investigation is necessary to

fully support the Navy's conclusion that Building 528/GAP 9 has experienced little or no releases and is unrelated to the groundwater VOC plume.

3. It is our understanding that the Navy prefers an integrated CERCLA/RCRA approach and that the RI report is intended to satisfy both CERCLA and RCRA requirements for site cleanup. In order to do that, we recommend the following:
  - Clearly state that one of the purpose and objectives of this RI is to satisfy the RCRA corrective action requirements.
  - Clarify that this RI address not just CERCAL constituents but also hazardous constituents as defined by Title 22 of California Code of Regulation (CCR) section 66260.10. This, in essence, means that both petroleum substances (exempt from CERCLA but regulated under RCRA) and radiological materials (not regulated under RCRA but covered under CERCLA) will be addressed in this RI.
  - Satisfactorily determine the potential of releases of hazardous constituents from past naval activities at Sites 14 and 15 (also see Comments #4 and #5).
4. The objective of RCRA corrective action is to identify releases of hazardous constituents from any solid waste management unit (SWMU) or area of concern (AOC) at the facility and have them cleaned up. As indicated in our December 16, 2002 comments to the Draft RCRA Technical Memorandum, DTSC essentially considers each building, structure, or site feature including the open space at Sites 14 and 15 a potential AOC until determined otherwise. The determination can be made through preliminary review (PR) and visual site inspection (VSI) in accordance with the guidance documents for the RCRA Facility Assessment (RFA) and CERCLA Preliminary Assessment/Site Inspection (PA/SI) issued by EPA and DTSC. The determination does not necessarily have to involve sampling.
5. It is our opinion that a satisfactory determination of a release or non-release (i.e. source determination) begins with a thorough PR and VSI. Sufficient details concerning the physical setting (e.g. dimension, year in use, floor condition, groundwater flow and depth to groundwater), past operations (e.g. chemicals used/stored, processes involved, size of the operation) and compliance history (e.g. spills) should be provided for each of the site features. Unless the past activities were strictly administrative and involved little chemicals (e.g. office, desk top training), visual inspection should be conducted and results should be provided (e.g. presence of any stains, condition of the operation/storage area).

At situations where sampling results are available, evaluation should be conducted for each site feature individually on a parcel-by-parcel basis. Criteria similar to those described in Comment #1 may be used: 1) examine to see if all potential sources of release have been adequately sampled and subject to

appropriate analyses, 2) evaluate the sampling locations for all non-detects to determine if they have been properly placed both laterally and vertically, 3) scrutinize non-detects with detection limits higher than the PRGs to see if the chemicals involved are indeed not present, 4) plot out all detected concentrations, examine them spatially and in relation to the potential sources to determine if a release has occurred, and 5) examine the groundwater data, if available, to see how they collaborate with the soil data and if the release has impacted the groundwater.

To illustrate our approach, an analysis of Parcel 17A of Site 14 is attached (Attachment 1). Please note that due to the way Appendix D is presented, non-detects resulted from high detection limits have not been examined in some cases.

6. We did not complete analysis for other AOCs or parcels because of difficulties encountered in using the data as provided (see General Comment # 8 and Specific Comment #1). But concerns such as the adequacy of PR/VSI, adequacy of sampling, relevance of sample results, and high detection limits noted for Parcel 17A also apply to other parcels. Examples are:
  - Parcel 23A, which is part of the aircraft runway area, is located upgradient from Building 528/GAP 9 and currently situated in the groundwater VOC plume. It measures more than 3 acres. So far there had been only one subsurface soil VOC sample (023-SN-001) taken at this parcel. The other four VOC samples (S14-DGS-SS01 through SS04) were collected from surface soils (0.5 ft) at a localized area at the west end of the parcel. No VOCs were detected in any of these subsurface or surface soil samples. Elevated total petroleum hydrocarbons (TPHs) up to 8,900 mg/kg, however, was detected at S14-DGS-SS01 indicating a release of petroleum hydrocarbons. Detection limit appears to be a problem (as high as 11,000 mg/kg were reported at S14-DGS-SS02).
  - Parcel 3 consists of Building 26, associated gun cleaning area and storage shed, GAP 11, and open spaces. Building 26, due to its classified use, was never inspected until February 2003. The inspection gave no details except stating that no stain was noted. Given that this 2,650 ft<sup>2</sup> building had been used for decades for storage of arms and pyrotechnics and cleaning of small arms using oil and solvents, more elaborate discussion such as conditions of the former storage and cleaning areas will be important in the determination of likelihood of releases. The gun cleaning area, reportedly to the north of Building 26, has not been visually inspected or sampled. The storage shed, which is to the east side of building 26, was sampled (003-Z02-002) but was tested for pesticides/PCBs rather than oil and solvents (the substances reportedly stored there, at least at one time, was floor-finishing compound). GAP 11, which measures 400 ft<sup>2</sup>, was a flammable storage shed equipped with hazardous material lockers. Soil samples, according to the RI (Figure 3-6), were collected approximately 20 ft southwest of GAP 11 and tested for VOCs (3-4 ft) and metals (0-0.5 ft). Although no VOCs were detected and no metal except

arsenic was detected to be above the PRG, the relative distance to the source area (GAP 11) compromises the relevance of the data.

7. We disagree with the Navy's approach in the determination of a release or non-release (i.e. source determination). As described in the RI, the Navy does it by first selecting the COCs for the soil of the entire site (e.g. PAHs and arsenic for Site 14) using statistical analysis (i.e. 10% detection frequency and maximum detected concentrations greater than PRGs), and then examining each potential AOC for its likelihood of being the source of the COCs. This approach assumes all source areas have been sufficiently sampled and analyzed and the COC selection is not biased. As shown by the discussions so far, we have seen in more than a few occasions that potential source areas have not been adequately sampled and properly analyzed. The COC selection, on the other hand, has left out potentially important constituents (e.g. VOCs and TPHs for Site 14) and is biased.
8. Numerous inconsistencies exist between the sampling location maps (e.g. Figures 3-2 and 3-6), sampling summaries (e.g. Tables 3-2 and 3-3), and the sampling results (Appendix D). Examples are:
  - Figure 3-2 indicates direct push sampling at S-14-DGS-DP14 through DP-16 but neither Table 3-3 nor Appendix D contains any relevant data.
  - Figure 3-2 shows that soil gas samples were collected at S14-DGS-SG-06 and SG-12 but Table 3-2 does not list them.
  - Table 3-2 indicates PAH sampling at GAP9B-1 through 9B-4 and S14-DGS-DP-14 through 16, but no corresponding data are seen in Appendix D.
  - Table 3-3 indicates radiological sampling but Table 4-2 and Appendix D contains no relevant data.
  - Table 3-3 indicates groundwater sampling at 017-005-018 through 017-005-022 but neither Figure 3-6 nor Appendix D fully supports this.

This inconsistency is quite wide-spread and has made data interpretation difficult. Please improve it.

9. DTSC strongly recommends some type of area-wide ecological risk assessment (ERA) be performed in the future for site 14 and 15 and the contiguous areas. Although the adjacent areas surrounding Site 14 and Site 15 are currently not in the Installation Restoration (IR) program, they are subject to RCRA corrective action. Their impacts to the Oakland Inner Harbor, if any, should be evaluated in conjunction with Site 14 and Site 15 to gain a full picture of any potential ecological hazard.

## **SPECIFIC COMMENTS**

### **1. Appendix D:**

- Please facilitate the detection limit review by listing PRGs on every data sheet or highlight those that are above the PRGs.
- Please facilitate the metal data review by providing the background metal data on every sheet.
- Some data entries indicate dry weight while others do not (e.g. Table D 1.6). Please clarify if all soil data reported are based on dry weight.
- Table D1.2 : Please show 2,3,7,8-TCDD equivalent.
- Table D 1.8: Pages 8 through 14 are repeats of previous pages.
- Table D1.11 is missing.
- Table D 1.13: both mg/kg and ug/kg are shown in this table (e.g. page 6 of 6). Please make sure there are no typo errors.
- Please also provide this appendix in electronic version.

### **2. Table 4-1:**

- Please include dioxin/furan in the table.
- Please indicate the unit for total petroleum hydrocarbon data (page 4 of 5 of the table)
- Please indicate if the table contains only the RI data or both the RI and EBS data.

3. Please calculate 2,3,7,8-TCDD equivalent to help the readers comprehend the level of dioxin present on site.

4. Please explain why one single sample (S14-DGS-SS11 see Table D1.1) is considered sufficient for chromium speciation.

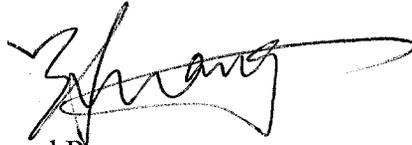
5. The low frequency of detection used as the justification for the assumption of a lognormal distribution for PAHs should be discussed in the text of this RI (this is in reference to Navy's response to #30B of Dr. Jim Polisini's comments for the draft RI)

# Memorandum

To: Ms. Marcia Liao  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 200  
Berkeley, CA 94710

Date: April 2, 2003

From: Charlie Huang, Ph.D.  
Staff Toxicologist  
Scientific Division  
Office of Spill Prevention and Response  
Department of Fish and Game



Subject: **Comments on Draft Final Remedial Investigation Report, Sites 14 and 15, Alameda Point, Alameda, California, Draft Dated February, 2003**

This memo is in response to a recent request from Ms. Glenna M. Clark of the U.S. Navy. The California Department of Fish and Game, Office of Spill Prevention and Response (DFG-OSPR) has completed its review of the "Draft Final Remedial Investigation (RI) Report, Sites 14 and 15, Alameda Point, California," dated February 2003. The document was prepared for the Navy by Tetra Tech EM, Inc. Per the Federal Facilities Agreement, we reviewed the document. Our review focused on technical aspects of the Ecological Risk Assessment (ERA). The following comments are provided as part of our role as a natural resource trustee for the State of California's fish and wildlife and their habitats.

## Background

Alameda Point was formerly called Naval Air Station (NAS) Alameda. It is on Alameda Island, at the western end of the City of Alameda in Alameda County, and along the eastern side of San Francisco Bay.

Similar to the shoreline of Oakland Inner Harbor, Alameda Point is almost entirely modified by human activity. Industries and activities located at the facility include port facilities, aircraft repair facilities, office buildings, runways, and landfills. In addition, Alameda Point includes contiguous and noncontiguous properties such as constructed breakwaters. Major habitat types include open water areas; estuarine intertidal emergent wetlands; non-native grassland; ruderal upland vegetation; disturbed areas; beach, urban, and ornamental landscapes; and riprap. Several special status species that occur or are expected to occur have been identified at Alameda Point.

This document addresses two sites, Site 14 - Former Fire-fighter Training Area and Site 15 - Former Transformer Storage Area.

Site 14 occupies approximately 14.4 acres. It was used for waste and equipment storage, and fire fighter training activities until 1987. Excess waste oils and fuels from plane defueling operations were ignited in a steel tank that was located in the center of the concrete pad during

training activities. In addition to buildings, there is open space covered with about 90% gravel and 10% grass. These open areas may have been impacted by pesticides and waste oils.

Site 15 consists of about 6 acres, which are unpaved. About one acre of land is wetland. The site was used for storing electrical equipments, oil-filled transformers, and old unused machinery. PCB-containing oil may have been applied to open space to suppress vegetation.

According to the land use plan, Sites 14 and 15 are expected to be a recreational area or a golf course. DFG has been asked to provide a review and comments on the report. We offer the following remarks:

### **Comments**

1. DFG-OSPR appreciates this opportunity to provide guidance on the planned cleanup at Alameda Point, Alameda. This memo will serve to inform the Navy of our continuing interest in coordinating any natural resource issues, as one of the designated State natural resource trustees. This may be necessary should release(s) of any hazardous materials at the subject site affect State natural resources.
2. DFG-OSPR is in general concurrence with the detailed review provided by Dr. James Polisini of the Department of Toxic Substances Control (DTSC) on September 19, 2002. The DFG has only a few new comments on the above document beyond those expressed by DTSC.
3. Page 3-9, Section 3.2.1.2: For wetland characterization, DTSC deferred to DFG's consultation. I reiterate that the Navy should recognize that DFG consistently uses the U.S. Fish and Wildlife Service (USFWS) definition of wetland in its wetland policy ([http://www.dfg.ca.gov/fg\\_comm/p4misc.html#WETLANDS](http://www.dfg.ca.gov/fg_comm/p4misc.html#WETLANDS)). The DFG wetland policy is a To-Be-Considered guidance which recommends that wetland characterization utilize USFWS definition of wetlands (USFWS, 1979). The USFWS definition utilizes hydric soils, saturation or inundation, and vegetative criteria, and requires the presence of at least one of these criteria (rather than all three) in order to classify an area as a wetland. Therefore, the USFWS criteria for wetland characterization is more stringent than the U.S. Army Corp of Engineers (COE) criteria. In order to uphold the DFG policy, we must utilize USFWS criteria for wetland delineation at Alameda Point and other BRAC sites. The new wetland delineation report would be unacceptable if COE criteria for wetland delineation were applied at Alameda Point. This comment is intended for the DTSC Project Manager and no response is required from the Navy.
4. Page 3-9, Wetland Delineation: It is not clear from the discussion in this page how one acre of wetland was characterized. We received the report of Wetland Delineation Installation Restoration Site 15, Alameda Point (Tetra Tech 2001) on March 25, 2003. It is not clear

from this report if USFWS criteria for wetland delineation were applied at Site 15. Although we concur with its conclusion, the report did not meet our format standard. We strongly recommend that the wetland delineation be made by a qualified biologist. The biologist utilizes site information and background materials to prepare what is commonly referred to as a Wetland Delineation Report. We recommend the following outline to present the project information in a report format.

- I. Summary**
  - II. Introduction**
    - A. Description of Project
    - B. Purpose of Assessment
  - III. Project Setting**
    - A. Vegetation community
    - B. Hydrology
    - C. Soils
  - IV. Methodology**
    - A. Pre-survey investigations
    - B. Field survey
  - V. Results**
    - A. Summary table of wetland impacts
    - B. Wetland functions and values
      - 1. Description of existing functions and values
      - 2. Potential impacts
  - VI. Discussion**
    - A. Avoidance and minimization recommendations
    - B. Mitigation recommendations
  - VII. References Cited**
  - VIII. Personal Communications Cited**
  - IX. Appendices**
    - A. Project maps showing proposed ACOE jurisdictional areas (1:100 scale map preferred)
    - B. Data Forms - Wetland Delineation
    - C. National Wetlands Inventory (NWI) map, where available
5. Pages H-25 and H-40: To the Comment 27 provided by Dr. James Polisini of DTSC, the Navy's response was "Typographical errors will be corrected." However, I still find at least nine '□' symbols in the text. Please correct these errors in the Final documents for Sites 14 and 15.

6. Page H-18, Section H.1.2.4: Please add statements or paragraphs in Section H.1.2.4 as follows: Generally, levels of chemicals of potential ecological concern (COPEC) below the low Toxicity Reference Values (TRVs) would not be considered to pose an appreciable risk to ecological receptors, while those in excess of the high TRVs would pose an unacceptable level of risk and would required remediation. For COPEC levels that are between low and high TRVs, further assessment of risk is warranted using site-specific bioavailability and exposure data.
7. Pages H-24 to H-40: The hazard quotient (HQ) calculation was checked at random and found to be arithmetically correct. While we noted that most COPECs with HQs marginally above 1.0 using low TRVs are inorganic chemicals, we accept the ERA conclusion. Given the background HQs, lack of quality habitat at these sites, and future land use, Sites 14 and 15 pose minimal risk to ecological receptors.

#### Editorial Comments

- HQs in text do not match with HQs in Tables H-18 and H-20:

Page # and Chemical	In Text	In Table
H-27, HMW PAHs	3.31	6.27
H-27, Dioxins	177, 1770	0.0302, 0.302
H-38, Lead	17	26.3
H-39, Lead	52.2	80.9
H-39, Endrin	5.18	5.31

- Section H.2.2.3.3, pg. H-39, para. 3: It seems missing "Thallium" in the beginning of the paragraph areas.
- Figure 1, the report of Wetland Delineation Installation Restoration Site 15, Alameda Point: It seems "WD19" should be "WD18."

#### Conclusions:

Given current and future limited potential for wildlife exposure pathways, I concur with the Navy's conclusion that these sites pose limited risk compared to background conditions. Based on the results of an ERA from Sites 14 and 15 in Alameda Point, the potential risk to ecological receptors from site-related activities is minimal.

Although this RI report is acceptable with respect to ecological risk, we request additional time to evaluate the response to my request for the report of Wetland Delineation, Installation

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Restoration Site 15, Alameda Point. In the meantime, the Navy may proceed with Sites 14 and 15, with the clear understanding that additional action may be required after DFG reviews the Response to Comments for the Wetland Delineation Installation Restoration Site 15.

DFG-OSPR appreciates the opportunity to review this document. If you have any questions regarding this review or require further details, please contact me at (916) 324-9805 or by e-mail at [chuang@ospr.dfg.ca.gov](mailto:chuang@ospr.dfg.ca.gov).

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**References:**

Tetra Tech. 2001. Wetland Delineation Installation Restoration Site 15, Alameda Point. May.

USFWS, 1979. Classification of Wetlands and Deepwater Habitats of the United States.  
FWS/OBS-79/31. Office of Biological Services, Washington, D.C.

ATTACHEMNT I

POTENTIAL RELEASES AT PARCEL 17A

SITE FEATURE	PR/VS1	SAMPLING	DISCUSSION/ANALYSIS	CONCLUSION/RECOMMENDATION
Bldg 528 (removed)	<ul style="list-style-type: none"> <li>▪ Heavy equipment and vehicle maintenance shop</li> <li>▪ Materials used included petroleum products, solvents and cleaners</li> <li>▪ Wastes generated included used petroleum hydrocarbons and lead-acid electrolyte solutions</li> <li>▪ Waste stored near bldg 528 on uncovered soil w/o 2<sup>nd</sup> containment</li> <li>▪ Unclear if sumps or floor drains exist</li> <li>▪ Unclear if there had been stains in or around the building</li> </ul>	<ul style="list-style-type: none"> <li>▪ 18 surface soil (0 ft bgs)</li> <li>▪ 8 subsurface soil (1-3 ft bgs)</li> <li>▪ 11 direct push (5 to 15 ft bgs, multiple intervals)</li> </ul> <p>(See soil and groundwater sampling tables below)</p>	<ul style="list-style-type: none"> <li>▪ The potential of release at GAP 9 is high according to the RFA. Target contaminants include VOCs, TPHs and metals (lead).</li> <li>▪ Potential of release also exists at Bldg 528 (inside and around the building), AST 528 (around the structure), and open space (between Bldg 528 and GAP 9). Keep in mind that the exact location of Gap 9 is unknown and could extend beyond what currently shown in Figure 3-6 of the RI.</li> </ul> <p><u>Soil</u></p> <ul style="list-style-type: none"> <li>▪ VOC: although ND but sampling considered insufficient (only two samples) given the past activities at Bldg 528/GAP 9 and the VOC plume in the groundwater; further investigation is needed</li> <li>▪ SVOC: TBD due to high detection limits</li> <li>▪ TPH: elevated TPHs with some hits higher than the PRC established in the TPH strategy</li> <li>▪ Pesticides/PCBs: do not appear to be a concern</li> <li>▪ Metals: all below PRGs except arsenic; still need to compare to background</li> </ul> <p><u>Groundwater</u></p> <ul style="list-style-type: none"> <li>▪ VOC: groundwater down to at least 15 ft is contaminated with VOCs; generally the shallower the more contaminated</li> <li>▪ TPH: NDs; but analyzed for general parameters (e.g. diesel range organics) only; detection limits may be high but there are no general PRCs to compare;</li> <li>▪ SVOC: TBD; metals and pesticides/PCBs: not analyzed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Potential of release exists at various locations. Sampling results so far are not sufficient enough to support the Navy's conclusion that there has been no release at Parcel 17A and no further action is necessary.</li> <li>▪ Recommend additional soil sampling inside and around Bldg 528 (including former AST 528 site) and in the open space area between Bldg 528 and GAP 9.</li> <li>▪ Obtain all relevant groundwater data and evaluate them; pay attention to aromatic as well as chlorinated VOCs</li> </ul>
GAP 9	<ul style="list-style-type: none"> <li>▪ Waste generation accumulation point for Bldg 528</li> <li>▪ Reported in RI to be @ 20' by 20' and @ 160 ft south of Bldg 528 but exact location unknown</li> <li>▪ Containerized waste stored on wooden pellets, no 2<sup>nd</sup> containment</li> <li>▪ Sandy soil, groundwater 4-6 ft bgs, groundwater flows N and W toward Oakland Inner Harbor and the Bay.</li> <li>▪ Stains visible during RFA (1991) but not at the present time</li> </ul>			
Bldg 83 (removed)	Office			
AST 528 (removed)	<ul style="list-style-type: none"> <li>▪ Diesel storage</li> <li>▪ Unclear if 2<sup>nd</sup> containment and Spill/ overfill prevention device were in use (assume no)</li> <li>▪ Unclear if there had been stains around the structure</li> </ul>			
Open Space	<ul style="list-style-type: none"> <li>▪ Possible equipment and vehicle parking</li> <li>▪ Possible waste accumulation particularly around Building 528 and south of Bldg 528 toward GAP 9</li> </ul>			

Soil

ID	Depth (ft bgs)	VOC	SVOC	PAH	TPH	Pesticides/PCBs	Metals
017-001-001	0		X	X	X		X
017-001-002	0		X	X	X		X
017-002-004	0				X		X
017-003-005	0				X		
017-004-006	0				X		
017-004-007	0				X		
017-004-009	0				X		
017-004-010	0				X		
017-004-011	0				X		
017-005-022	0				X		
017-Z03-012	0					X	
017-Z03-013	0					X	
017-Z03-014	0				X	X	
017-Z-03-016	0					X	
GAP-9B-1	0	X	ND; but samples were taken from the surface	X	X	X	X
GAP-9B-2	0	X		X	X	X	X
GAP-9B-3	0	X		X	X	X	X
GAP-9B-4	0	X		X	X	X	X
017-001-001	3	X	ND; samples were immediately adjacent to Bldg 528				
017-001-002	3	X					
017-z03-016	3					X	
017-005-018	3				X		
017-005-020	2.5		X		X		X
017-005-022	3				X	X	X
017-Z03-014	1.3				X	X	
017-SNPSIS-001	2.5	X	ND; sample was immediately adjacent to Bldg 83 which was an office.	X (data not in App D)			X

VOC: Inadequate. GAP9B-1 through 9B-4 were surface soil samples and 017-SNPSIS-001 was next to an office building. This leaves only two VOC samples (017-001-001 and 017-001-002) for Parcel 17A which is inadequate considering the past activities at Building 528 and GAP 9 and the VOC plume in the groundwater.

SVOC: Detection limits higher than PRGs seen in many analytes; no further evaluation performed at this time.

PAH: no data seen in Appendix D; appeared to be performed as part of SVOC analysis.

TPH: Motor oil as high as 9,600 mg/kg (017-004-009) and diesel as high as 1,800 mg/kg (017-001-001) were detected. According to Alameda Point's TPH Strategy, the PRC for residential soil is 1,380 mg/kg for diesel and 1,900 mg/kg for motor oil. For nonresidential soil, the PRC is 6,700 mg/kg for diesel and 9,400 mg/kg for motor oil.

Pesticides/PCBs: all ND. Detection limits for some analytes exceeded the PRGs. The problem does not appear to be systematic. Since pesticides/PCBs are not target constituents for activities involving equipment and vehicle maintenance and repair, the likelihood for pesticides/PCBs release at Parcel 17A is small (note: no groundwater at Parcel 17A has been analyzed for pesticides/PCBs but pesticides/PCBs does not appear to be a problem in areas around Parcel 17A).

Metals: All below PRGs except arsenic; yet to compare to the site background.

Groundwater

ID	Depth (ft bgs)	VOC	SVOC	TPH	Pesticides/PCBs	Metals
S-14-4-1	11-13	X	x	X		
S-14-4-2	7-9, 9-11, 11-13,13-15	X				
S-14-5-1	7-9, 9-11, 11-13,13-15	X				
S-14-DGS-DP05	5			X		
S-14-DGS-DO06	5			X		
S-14-DGS-DP07	6			X		
S-14-DGS-DP11	7	X		X		
S-14-DGS-DP12	7			X		
S-14-DGS-DP14	?	Data missing from Table 3-3 and Appendix D				
S-14-DGS-DP15	?					
S-14-DGS-DP16	?					

VOC: detected at S-14-4-2 and S-14-5-1, detected at all depths, contamination higher at shallower intervals.

SVOC: only one sample taken; Detection limits exceeded PRGs for some analytes.

TPH: all ND some detection limits may be high but PRCs are not available for comparison (The RPCs listed in the TPH strategy are chemical-specific (e.g BTEX)).

Pesticides/PCBs: Not analyzed

Metals: Not analyzed.