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ALAMEDA POINT
SSIC NO. 5090.3

STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY
PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
REGION 2
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December 20, 1993

Commander
Western Division
Naval Facilities Engineering Command
Attn: Mr. Gary Munekawa, Engineer In Charge
Code 1811
900 Commodore Drive
San Bruno, California 94066-2402

Dear Mr. Munekawa:

**DETECTION AND QUANTITATION LIMITS FOR NAVAL AIR STATION, ALAMEDA**

The California Environmental Protection Agency, Dept. of Toxic Substances Control (DTSC) and the San Francisco Regional Water Quality Control Board (SFRWQCB) request that lower quantitation limits for organics and detection limits for inorganics be implemented for certain analytes at NAS Alameda. These lower quantitation or detection (for simplicity quantitation limits will be used in discussing both inorganic and organic analysis) limits would apply to any future applicable field work conducted at the Air Station, including the follow-on field activities for Phases 2A, 2B, 3, 5, and 6.

The most recent Quality Assurance Project Plan (QAPP) is found in Section 3.0 of the Interim Removal Action Lead and Acid Soils Removal Intermediate Maintenance Facility Site, Implementation Work Plan (PRC/Montgomery Watson, August 3, 1993). As stated in the Work Plan, this QAPP replaces Volume 3 of the Canonie's 1990 work plan. Some of the Contract Required Detection Limits (CRDL) and Contract Required Quantitation Limits (CRQL) identified in the new QAPP are higher than the level needed to make comparisons with the State of California's Maximum Contaminant Level (MCL) or Secondary Maximum Contaminant Level (SMCL) for drinking water and the RWQCB Basin Plan Water Quality Objectives (Basin Plan). Therefore, quantitation limits for chemical analytes must be low enough to enable such comparisons.

The following table identifies the lower quantitation limits for water necessary to meet the State and U.S. EPA's MCLs and the RWQCB's Basin Plan. These quantitation limits represent the most conservative limit found in either the MCL or the Basin Plan. They do not take into account whether or not the ground water is potable or non-potable. These limits are listed for simplicity and because of the Navy's willingness to use these lower limits



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at Oakland NSC and Alameda Annex. If an analyte is not listed here, the quantitation limit identified in the current QAPP is at an acceptable level.

TABLE 1. Water Quantitation Limits Necessary to Meet the State of California's MCLS and the RWQCB'S Basin Plan.

| **Analyte** | MCL or SMCL (ppb) | BASIN PLAN |
|---|---|---|
| Aluminum | 50 | |
| Antimony | 6 | |
| Beryllium | 4 | |
| Copper | | 4.9 |
| Mercury | | .025 |
| Nickel | | 8.3 |
| Silver | | 2.3 |
| Thallium | 2 | |
| Benzene | 1 | |

Quantitation limits for some analytes in soil must also be changed to allow for comparisons with water quality criteria. The required quantitation limits are calculated using Marshack's method by multiplying the water quality goal (MCL or BP) by an environmental attenuation factor (EAF) and a leachability factor (LF) (Marshack, Jon "The designated Level Methodology for Waste Classification and cleanup level determination" June 1989, Central Valley RWQCB). An attenuation factor of 1 was applied for NAS Alameda. A leachability factor of 100 is used for inorganic constituents. Therefore:

Quantitation Limit = (water quality goal) x (EAF) x (LF)

For some of the analytes a higher quantitation limit other than those calculated by Marshack's method are acceptable. These limits were set and agreed upon at a meeting held on September 10, 1993 and attended by the Navy, DTSC, and RWQCB. These alternate levels were set for Oakland NSC and Alameda Annex NSC; however, because of the similar geography and geologic conditions at NAS Alameda, these limits can apply at NAS Alameda. Still unresolved, however, is the acceptable quantitation limit for antimony. The RWQCB, request that a quantitation limit of .6 be

applied. The Navy proposes to use a quantitation limit of 2.76. The Navy has agreed to supply more information on the available methods and associated cost for the State to review.

The following table list the new required quantitation limits for soil. Again, if an analyte is not listed here, the quantitation limit identified in the current QAPP is at an acceptable level.

TABLE 2. Soil Quantitation Limits Calculated Using Marshack's Method or as Agreed Upon on September 10, 1993.

| ANALYTE | QUANTITATION LIMIT (ppm) | METHOD OR AGREEMENT |
|---|---|---|
| Antimony | .6 (2.76) | Disputed |
| Beryllium | .4 | MCLx100 |
| Cadmium | .5 | MCLx100 |
| Copper | .49 | BPx100 |
| Lead | .05 | MCLx100 |
| Mercury | .0036 | As Agreed |
| Nickel | 1.48 | As Agreed |
| Silver | .26 | As Agreed |
| Thallium | .56 | As Agreed |

The Navy is required to meet all detection limits for soil and water for inorganics and benzene in all future analysis at NAS Alameda. Because detection limits are highly matrix dependent, these limits may not always be achievable. If these detection limits can not be reach a discussion of why required detection limits were not met must be included in the Data Summary Section of the Remedial Investigation Report.

The following paragraphs outline the agreements reached between the State and the United States Navy for Naval Supply Center Alameda Annex and Oakland Naval Supply Center. The intention of the San Francisco Regional Water Quality Control Board and the Department of Toxic Substances Control is for these agreements to apply to NAS Alameda.

- The State is required to protect the beneficial uses of ground water and the Bay water as well. All waters are

considered potential drinking water sources unless the total dissolved solids exceeds 3,000 mg/l or the water source does not yield more than 200 gallons for a single well per day. Therefore, all CLP Q.L. should meet MCL values as a minimum standard (see Table 1). In addition, the Secondary Maximum Contamination Level (SMCL) for Aluminum also needs to be met.

- The Basin Plan Water Quality Objectives may be adjusted to higher values if the Navy can demonstrate the influences of attenuation through an approved model.

- The current quantitation limits provided by the State can be achieved by EPA methods 200, 6010 or 7000. In general, any EPA approved methods could be accepted by the State if the required detection limit has been met.

- The Basin Plan Water Quality Objectives are enforceable by the California EPA. The Basin Plan Water Quality Objectives, however, may not necessarily become the cleanup levels for NAS Alameda. Ultimate cleanup levels can be adjusted by the nine criteria outlined in the National Contingency Plan and applied when selecting a remediation alternative.

- The detection limits of soil proposed by the State is intended to obtain meaningful data that can be used as a reference to identify areas that may have a potential adverse impact on ground water. The quantitation limit is not intended to be used as cleanup level. The detection limit may be adjusted if laboratory difficulties develop.

The installation of new quantitation limits at NAS Alameda presents a new problem, that is the use of previously collected non-detect soil data in site characterization. Previously collected data may not be comparable with newly collected data. Therefore, there may be situations where non-detect data points may require resampling. The DTSC and the SFRWQCB, however, do not wish that all non-detect data points with new detection limits be resampled. The decision to resample non-detect data points will depend on site specific situations. The decision to resample should be agreed upon between the Navy, DTSC and the SFRWQCB. Data points would require resampling if:

1) The soil data is being used, in leu of water data, to rule out that there is a potential impact to water quality.

2) The soil data were used to define the extent of soil contamination especially when the definition of extent is critical to risk assessment and remedy design.

Soil would not have to be resampled if the soil is contaminated with contaminates of concern other than metals, and if it turns out that those contaminants would drive risk assessment, site characterization, and site remedy.

Because four new quarters of groundwater data will be generated during the upcoming field activities, the use of previously collected groundwater data is not a affected by the change of quantitation limits.

If you have any questions regarding this letter, please call me at (510) 540-3809.

Sincerely,

Thomas P. Lanphar
Site Mitigation Branch
Project Manager
Base Closure Branch

cc: Mr. James Nusrala
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