Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

N00236.002464
ALAMEDA POINT
SSIC NO. 5090.3

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

October 15, 2002

Richard Weissenborn
Department of Navy
Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, CA 92101

REVISED DRAFT WORKPLAN, BASEWIDE GROUNDWATER MONITORING PORGRAM, ALAMEDA POINT, ALAMEDA, CALIFORNIA

Dear Mr. Weissenborn:

The Department of Toxic Substances Control (DTSC) has completed the review of the above referenced basewide groundwater monitoring workplan prepared by IT Corporation and submitted by the Navy on June 13, 2002. Our comments are attached. Please contact me at 510-540-3767, if you have any questions.

Sincerely,

Marcia Y. Liao

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

Enclosures

cc: see next page

cc: Michael McClelland, SWDiv
Andrew Dick, SWDiv
Steve Edde, Alameda Point
Anna-Marie Cook, EPA
Judy Huang, RWQCB
Elizabeth Johnson, City of Alameda
Peter Russel, Northgate Environmental
Michael John Torrey, RAB Co-Chair
Lea Loizos, Arc Ecology

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

MEMORANDUM

TO: Marcia Liao
Hazardous Substances Engineer
Office of Military Facilities
Berkeley Office

FROM: Norman Shopay, RG
Hazardous Substances Engineering Geologist
Hazardous Waste Management Program
Geological Services Unit

CONCUR: Brian Lewis, CEG, CHG
Hazardous Substances Engineering Geologist Supervisor I
Hazardous Waste Management Program
Geological Services Unit

DATE: October 14, 2002

SUBJECT: Workplan for Basewide Groundwater Monitoring Program
Alameda Point, Alameda, Alameda County, California
Project No. 18040-201209-00

DOCUMENT REVIEWED

Draft Final, Work Plan for Basewide Groundwater Monitoring Program, Alameda Point, Alameda California, dated June 13, 2002, prepared by IT Corporation. (Workplan)

INTRODUCTION

As you have requested, the Geological Services Unit (GSU) has reviewed the above-referenced Workplan for Alameda Point, Alameda California. This memorandum provides our comments and recommendations. If you have any questions, please contact Norman Shopay at (510) 540-3943 or Brian Lewis at (916) 255-6532.

COMMENTS

1. The Navy should identify and discuss all Resource Conservation Recovery Act (RCRA) regulated units and identify the RCRA regulated units on maps. The Navy should demonstrate how the workplan meets the requirements of California Code of Regulations, Article 6 Water Quality Monitoring and Response Programs for

Permited and Interim Status Facilities. The Navy should identify the wells to be sampled annually for Appendix IX constituents in compliance with the requirements of Title 22, California Code of Regulations, Section 66264.97(e) or Section 66265.979(e).

2. Section 7.1 Monitoring Well Sampling Frequency and Elimination from the Program. GSU recommends that four consecutive quarterly rounds of Non Detect (ND) be achieved prior to being considered for semiannual sampling. GSU interpretation of this requirement is that if any Chemical of Concern (COC) is detected during any single quarterly sampling event then the clock is reset and four consecutive quarterly rounds of ND will be required. If any elevated detection limits for a COC are reported than it should also be considered an excursion of the detection limit. In addition, any identified groundwater monitoring well associated with a RCRA regulated unit may require additional decision analysis.

3. Section 7.2 Monitoring Well Sampling Analytes and Reduction of Analytes from the Program. Same comments as above in Number 3.

4. Section 8.0 Quality Assurance/Quality Control Requirements. This section should be further reviewed by DTSC Hazardous Materials Laboratory (HML).

5. Section 9.0 Laboratory Analysis. This section should be further reviewed by DTSC HML.

6. Section 11.0 Quarterly Groundwater Monitoring Reports. GSU recommends that this section of the workplan be revised and resubmitted for review. The following additional items should be included in the revision.

   All historical and the current quarterly analytical data should be presented graphically for each monitoring point. In addition, all graphs for a given constituent should be plotted at the same scale to facilitate visual comparison of monitoring data. The purpose of preparing graphical presentations is to provide a historical visual representation of the analytical data trends. Separate graphs may be appropriate to represent various parameters and groups of chemicals such that the spread of they axis selected to best display the variability of the data will not be more than three times the range of the data. In addition, data tables should also include cumulative results for each well and parameter. Adjustments to the horizontal time scale that considers a proportional time-based scale is preferred over a time scale, which does not account for the time period between successive sampling events. Depth to groundwater measurements should also be presented.

   It is stated that potemetric surface maps for selected sites and water bearing units will be prepared. Potemetric surface maps and groundwater gradient and direction should be prepared for all sites and all water bearing units. In addition, the vertical gradient calculations and flow directions should be provided.

The reference to the presentation groundwater plume maps is unclear. Specific groundwater iso-concentration maps should be provided for COCs.

The report should include a detailed discussion of field and laboratory QA/QC procedures and results. The data verification analysis should state if the data quality objectives of accuracy, precision and completeness were met.

The following comments refer to Draft Final Sampling and Analysis Plan included in Appendix A.

7. Identify the Decisions. The following question should also be considered. Are the groundwater monitoring wells designed and placed in locations to allow for the collection of a "representative" sample of the current ground-water conditions over a known or specified volume of aquifer? To meet this objective, the sampling equipment, the sampling method, the monitoring well construction, monitoring well operation, maintenance, and sample handling procedures should not alter the chemistry of the sample. A sample that is obtained from a poorly constructed well, taken using improper sampling equipment, or preserved improperly, can bias the sample. Unrepresentative samples can lead to misinterpretations of ground-water-quality data. In addition, if the groundwater monitoring well does not yield representative samples then it should be abandoned and replaced.

8. 4.1.3 Identifying Inputs to the Decision. For RCRA regulated units, Title 22, California Code of Regulations, Section 66264.99 (e)(6) and Section 66245.99(e)(6) states in part that, "the owner or operator shall analyze samples from all monitoring points in the affected medium (groundwater, surface water or the unsaturated zone) for all constituents contained in Appendix IX to Chapter 14 at least annually to determine whether additional hazardous constituents are present and, if so at what concentration(s)." In addition, specific decision rule apply under these sections. Groundwater monitoring wells that require annual Appendix IX sampling and analysis should be identified.

9. 5.1 Groundwater Monitoring Well Installation and Construction. GSU recommends that bentonite not be added to the cement grout. Cement grout should be mixed by adding no more than 6-gallons of water per 94-pound sack of cement.

10. 5.3 Groundwater Monitoring Well Development. A vented surge block should be used during well development.

    Well screen size and filter pack material for all monitoring wells should be designed to obtain turbid-free water (<50 Nephelometric Turbidity Units (NTU)). A well that cannot be developed to the point of producing low turbidity water (<50 NTUs) may be considered to have been improperly constructed (e.g. mismatched filter pack and formation materials or mismatched filter pack and screen slot size).

Initial well development shall continue to the point of producing low turbidity water (<50 NTU). During well development, pH, conductivity, temperature, turbidity and dissolved oxygen should be measured.

11. 5.7 Analytical Requirements. Title 22, California Code of Regulations (CCR) Appendix IX analytical requirements should be referenced.

12. 6.2 Inspection of Existing Well Locations. All damaged groundwater monitoring wells should be repaired, replaced or abandoned prior to the next schedule groundwater sampling event. A California licensed surveyor should survey all repaired groundwater monitoring wells. A report of all repair activities should be included in quarterly groundwater monitoring report. The quarterly groundwater monitoring report should include a section that tracks outstanding facility issues and/or outstanding follow-up work (i.e. repair or replacement of wells, non-sampled wells or elevated detection limits). Any item included in this section should be addressed in every subsequent quarterly report until the outstanding issue is resolved.

13. Section 6.3 Well Redevelopments. Well redevelopment should continue to the point of producing low turbidity water (<50 NTU). During well development, pH, conductivity, temperature, turbidity and dissolved oxygen should be measured. The statement that "or a minimum of three well volumes of water are removed and the water is visually clear to the eye" should be deleted.

14. 6.4 Water Level Measurements. The presence and thickness of LNAPL and DNAPL should also be measured.

15. 6.5 Groundwater Sampling Procedures. Please provide additional clarification of the statement *"Samples may be collected from wells that are redeveloped without additional purging. Samples must be collected within 24 hours of completing the redevelopment."* The GSU recommends that groundwater samples not be collected immediately after well redevelopment or development and that a minimum of 24 hours elapses prior to well purging and sampling.

    This section also states " If the pump does not function properly or does not fit in the well, a bailer may be used to purge the well." GSU recommends that if the pump does not function properly or does not fit in the well that the pump is repaired or a secondary or alternate low-flow pump is used. A bailer should not be used to purge any monitoring well prior to sampling.

    This section states " The well will be allowed to recharge until the water level in the casing returns to within 80 percent of the original static water level or 24 hours, whichever comes first prior to sampling." GSU recommends under these circumstances that the monitoring well be allowed to recharge a minimum of 24 hours, if necessary, to allow the well to recharge within 90 percent of the original

static water level.

This section states that "turbidity readings will be collected but will not be used as a stabilization parameter." GSU recommends that turbidity be included as a stabilization parameter and that a stabilization criteria of +/- 10% (when turbidity is greater than 10 NTUs) be used.

The standard procedures for sampling groundwater should include an additional activity that conducts and inspection and documents damage to any monitoring well.

NTS/197A/

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Gray Davis
Governor

MEMORANDUM

TO: Marcia Liao
Hazardous Substances Engineer
Office of Military Facilities
Berkeley Office

FROM: Norman Shopay, RG
Hazardous Substances Engineering Geologist
Hazardous Waste Management Program
Geological Services Unit

CONCUR: Brian Lewis, CEG, CHG
Hazardous Substances Engineering Geologist Supervisor I
Hazardous Waste Management Program
Geological Services Unit

DATE: October 14, 2002

SUBJECT: Data Summary Report, Operable Units 1 and 2
Alameda Point, Alameda, Alameda County, California
Project No. 18040-201209-00

DOCUMENT REVIEWED

Data Summary Report, Supplemental Remedial Investigation, Data Gap Sampling For Operable Units 1 and 2, Alameda Point, Alameda California, dated July 25, 2002, prepared by Tetra Tech Em, Inc. (Report)

INTRODUCTION

As you have requested, the Geological Services Unit (GSU) has reviewed the above-referenced Report for Operable Unit 1 (OU-1) and OU-2 at Alameda Point, Alameda California. This memorandum provides our comments and recommendations. If you have any questions, please contact Norman Shopay at (510) 540-3943 or Brian Lewis at (916) 255-6532.

COMMENTS

1. Because the Report contains interpretations, conclusions, and/or recommendations

on geological and geochemical data, the report must be signed by a qualified Geologist, registered in the State of California, or a professional Civil Engineer who takes responsibility for the technical content of the report. This is required by California State Law – Geologist and Geophysicist Act, Section 7835, 16 CCR 3003(f)(2) and CCR 3003(h), and the Professional Engineers Act, Chapter 7 of the Business and Professions Code.

Technical reports and memoranda submitted to the Department of Toxic Substances Control (DTSC) that address hazardous waste investigations, and are available for public review, must adhere to the legal requirements of the Business and Professions Code. Reports signed by licensed professionals must indicate the license number of the professional who signs the documents. The Navy should submit the final Report signed and stamped by the licensed individuals who take responsibility for the technical content of the Report.

2. The Navy should identify any Resource Conservation Recovery Act (RCRA) regulated units located in OU-1 or OU-2. The locations of the RCRA regulated units should be discussed and identified on maps.

3. The following comments refer to multiple maps present as Groundwater Contamination Plume Delineation Maps.

   Many of the maps present concentration values where the laboratory detection limit is significantly greater than the Maximum Contaminant Level (MCL). For example, Figure 2.1-1, SO4-DGS-DP14 200U. In Figure 2.1.3, CA-13-15 20U, CA13-16 10U, CA-13-12 20U, MW547-3 100U. In Figure 2.1-5, S09-DGS-DP08 1U, S09-DGS-DP-12 10U, S09-DGS-DP02 1U, S09-DGS-DP03 1U. Laboratory detection limits that exceed the MCL do not indicate that contamination does not exist in these areas above the MCL or that the extent of contamination has been defined to the MCL. Therefore, additional investigation may be required in these areas. GSU has only provided three examples. This issue is repeated in additional maps.

   Concentrations that exceed MCLs are not always identified and contoured. For example, Figure 2.1-1, exceedance of the MCLs occurs in the area of S-16-DGS-DP15 184.5 and S16-DGS-DP31 37, however, no MCL contour line exists in this area. In Figure 2.1-3, S04-DGS-DP14 27, S04-DGS-DP14 19, S04-DGS-DP29 66 no MCL contour line exists. GSU has only provided two examples. This issue is repeated in additional maps.

   Green dots are identified as "Sample Locations Below MCL". In Figure 2.16, S16-DGS-DP01 100U reports a detection limit of 100 with a green dot however the MCL for Benzene on 1.0. This is 100 times greater than the MCL, however it is reported as being below the MCL. GSU has only provided one example. This issue is repeated in additional maps.

The MCL contour line includes both values above and below laboratory detection limits. In Figure 2.1-13, S03-DGS-DP03 1U, S03-DGS-DP22 200U and S03-DGS-DP20 1.7 are all identified as an exceedance of the 0.5 MCL. Outside the MCL contour, M03-08A 3U and S03-DGS-DP-21 1U are identified as not exceeding the MCL. GSU has only provided one example. This issue is repeated in additional maps.

4. Section 1.2.6 states in summary the following. Existing analytical data indicate cadmium and cyanide may be present in surface and shallow soils or groundwater above screening levels near suspected source areas such as Building 360 and building 5 plating shops and their associated waste treatment plants (IWTP). The Navy should describe and identify all suspected source areas on maps. In the case of Building 360 IWTP, the soil and groundwater sampling locations presented on Figures 2.6-3 and 2.6-4 are not adequate to evaluate the extent of soil and groundwater contamination near the suspected source. All suspected source areas should be identified and evaluated related to the locations of soil and groundwater monitoring points to determine if additional investigation is needed.

NTS/KB/196A/