



# Department of Toxic Substances Control



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February 26, 2001

Mr. Dean Gould  
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Base Realignment and Closure  
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## DRAFT GROUNDWATER MONITORING REPORT, JUNE 2000 MONITORING ROUND 12, MARINE CORPS AIR STATION (MCAS) EL TORO

Dear Mr. Gould:

The Department of Toxic Substances Control (DTSC) reviewed the above report dated January 12, 2001. The document summarizes the results of field sampling activities and data evaluation of the June 2000 sampling round (Round 12). The document also includes evaluation of the data collected during Rounds 8 through 11 that was not presented in the data summaries previously submitted.

After review of the report, DTSC has the following comments:

1. Section 1.3, Site Hydrology: The second sentence in the second paragraph of this section states, "The direction of the groundwater flow . . . (see Figure A.2A in Appendix A for an illustration of groundwater flow direction)."

Please clarify in the text that Figure A.2A illustrates the approximate groundwater flow direction based on water level measurements collected during Round 12.

2. Section 1.5, Background on Groundwater Monitoring Program: The second sentence of the third paragraph in this section states, "Groundwater monitoring Rounds 8 through 11 were conducted in general accordance with the provisions of the draft final GMP, with modifications as necessary."

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov).*



This statement does not reflect that the reports issued for groundwater monitoring rounds 8 through 11 were essentially data summaries that were not consistent with the Groundwater Monitoring Report format presented in the *Draft Final CERCLA [Comprehensive Environmental Restoration, Compensation and Liability Act] Groundwater Monitoring Plan, Marine Corps Air Station, El Toro, California (GMP)* (Bechtel National, Inc., June 1999). Please revise the statement accordingly.

3. Section 2.2, Modifications to the Groundwater Monitoring Program: This section provides general information regarding modifications relative to the GMP. However, it would be helpful to have a table that correlates the groundwater monitoring wells identified in the GMP for sampling and water level measurement to those sampled or measured during Round 12. For example, the table should list the wells identified for sampling in the GMP, the wells actually sampled during Round 12, and the reasons for excluding wells from Round 12.
4. Section 2.2.1, Water Level Measurements: Please provide more detail regarding the fact that water level measurements were collected from 55 monitoring wells rather than from the 90 wells listed in GMP. A table for water level measurements similar to the table proposed in Comment Number 3 would be helpful.
5. Section 2.2.3, Groundwater Sampling: Please clarify the reasons for the reduction in groundwater monitoring wells sampled during Round 12. This section should clearly state reasons for conducting sampling at only 55 of the 106 wells/ports identified in the GMP. The descriptions for each site should clearly identify the wells associated with each site. Additionally, the specific wells added to or removed from the sampling round should be correlated to those identified in the GMP. For example, please specify if a well was replaced by an adjacent well or the well was inaccessible, etc.
6. Section 2.6, Sample Analysis: Since decisions regarding analytes are made on a site basis, it would be helpful to organize the wells listed in Table 2-3, Summary of Groundwater Sampling and Analyses, by site.
7. Section 2.6, Sample Analysis, Perchlorate: The last sentence in this paragraph states, "Samples were collected from selected monitoring wells within Sites 2, 3, 18 and 24 to support the base wide evaluation of this analyte."

DTSC submitted comments on the *Draft Report Evaluation of Perchlorate in Groundwater* (Bechtel National, Inc., April 1999) on May 18, 1999. Comment number 3.a stated, "DTSC agrees with the recommendation to conduct further monitoring at Sites 1, 2, 3, 5, 17 and at all other wells where perchlorate was reported in October 1998." DTSC understands that Site 1 is not included in the groundwater monitoring program since a remedial investigation will be conducted for the site. However, this report does not address perchlorate monitoring at Sites 5 and 17 as stated in the May 1999 comments. Please clarify this issue in the report.

8. Figure 2-1, Locations of Groundwater Sampling and Water Level Measurements, June 2000: The legend identifies "Wells in Current Monitoring Program." Please clarify that these are the wells sampled/measured during the Round 12 sampling event.
9. Section 3.1.1.2, Principal Aquifer: The third paragraph of the section states, "Table 3-1 presents a summary of monthly withdrawals at production wells . . . . A comparison of 1998 through September 2000 production totals indicates an average increase in production in 1999 and 2000 from production in 1998."

The average production totals are not provided in Table 3-1 to support the statement in the third paragraph. Please include the average production totals in Table 3-1 or include a more general statement regarding increase in production from each well in 1999 and 2000 relative to 1998.

10. Figure 3-3, TCE [Trichloroethylene] Concentrations in the Shallow Groundwater Unit, and Principal Aquifer with Regional Potentiometric Elevation Contour Map for the Shallow Groundwater Unit, June 2000: The title indicates that TCE concentrations for both the Shallow Groundwater Unit and Principal Aquifer are included; however, based on information provided in Section 4.1.2.1, VOCs [volatile organic compounds], "A TCE plume for the principal aquifer was not configured for Round 12 due to a lack of data points." As a result, please remove reference to the Principal Aquifer from the title of this figure.

Additionally, the Potentiometric Elevation Contour Map appears to be associated with the Shallow Groundwater Unit. Use of the term, "Regional" in the title and legend is not clear. Please clarify the application of this term in Section 1.3, Site Hydrogeology, or remove the term from the title and legend.

11. Section 4.2, Recommendations: Please revise this section to include recent discussions and correspondence (from approximately January 2001) regarding the Round 13 sampling locations and modifications.
12. Appendix A, Water Level Data: Please include historical water level data from all of the wells measured during sampling events associated with the groundwater monitoring program.
13. Appendix A, Figures A.2A through A.2E, Regional Groundwater Potentiometric Elevation Contour Maps for the Shallow Groundwater Unit: In the northeast section of the base, near Site 1, the number of groundwater measurements are not sufficient to project the groundwater elevation contour lines. These contour lines should be eliminated or shown as dashed lines.
14. Appendix A, Figures A.2A through A.2J, Regional Groundwater Potentiometric Elevation Contour Maps: Use of the term, "Regional" in the title and legend is not clear. Please clarify the application of this term in Section 1.3, Site Hydrogeology, or remove the term from the title and legend.
15. Appendix B, Groundwater Quality Data: Please include historical groundwater quality data from all of the wells sampled during sampling events associated with the groundwater monitoring program, including data collected since approximately 1989.
16. Appendix B, Table B.1B, Detected Volatile Organic Compounds in Groundwater 1992-2000: Carbon tetrachloride concentrations appear to be increasing in wells associated with Site 24. The Maximum Contaminant Limit (MCL) for carbon tetrachloride is 0.5 micrograms per liter ( $\mu\text{g/L}$ ). Concentrations of carbon tetrachloride exceeding the associated MCL were detected in wells 18\_DW135, 18\_DW250, 18\_DW350, 24EX3OB1, 24EX5OB2 and 24NEW7 in June 2000. Please provide information regarding the source of carbon tetrachloride.
17. Appendix B, Figure B.3A, TCE Concentrations in the Shallow Groundwater Unit and Principal Aquifer, June 2000: Based on information provided in Section 4.1.2.1, VOCs, "A TCE plume for the principal aquifer was not configured for Round 12 due to a lack of data points." As a result, please remove reference to the Principal Aquifer from the title of this figure.

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18. Appendix B, Figure B.3D, TCE Concentrations in Groundwater Cross Section A-A": Wells not located on the cross section line should be shown as projected well locations. For example, IRWD-78 and 18\_MCAS08 are a located a significant distance from the cross section line. Also, the values in this figure correspond to TCE concentrations detected during Round 8. Please revise the title of this figure accordingly.
19. Appendix D, Physical Data: Please include the well construction logs for the replacement wells identified in Table 2-1.

If you have any questions, please contact me at (714) 484-5395.

Sincerely,



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