PROJECT NOTE NO.	PROJECT NO.
PN-0145-145 CLE-C01-01F145-I2-0092	01-F145-H6 M60050.001175

CONFIRMATION OF:	CONFERENCE	X	DATE HELD	28 November 1994
	TELECOM		DATE ISSUED	22 December 1994
	OTHER		RECORDED BY	Liz Miesner/CH2M HILL
			PLACE	EPA, San Francisco

SUBJECT

Contract Task Order (CTO) No. 145
MCAS El Toro
Risk Assessment Meeting Minutes

M60050.001175
MCAS EL TORO
SSIC # 5090.3

PARTICIPANTS: (* DENOTES PART-TIME ATTENDANCE)

Bonnie Arther/EPA
John Christopher/DTSC
David Liu/Bechtel
Liz Miesner/CH2M HILL
Jeffrey Paull/EPA
Dan Stralka/EPA

ACTION REQ'D. BY	ITEM

Attachment I - Risk Assessment Meeting Minutes

A meeting was held on 31 October 1994 from 1300 to 1630 hours with representatives from CH2M HILL, U.S. Environmental Protection Agency (EPA), Cal-EPA Department of Toxic Substances Control (DTSC), and Bechtel Corporation. The purpose of this meeting was to discuss EPA and DTSC review comments on the *Marine Corps Air Station El Toro, Draft Operable Unit 1 Baseline Human Health Risk Assessment Report* dated 01 July 1994 (the report). These meeting minutes summarize the items discussed and revisions agreed upon; a copy of the sign-in sheet is attached.

ISSUES:

Background Inorganic Concentrations:

There was quite a bit of discussion concerning the lack of background concentrations for inorganics detected in groundwater. The following actions were recommended:

- In order to clarify the impact of the major inorganic contributors to risk in the report, the following additional figures are recommended: 1) after Figure 5-5 (Estimated Hazard Indices - Manganese) add a figure showing the total site hazard indices minus the contribution from nitrate/nitrite, antimony, and manganese; and 2) after Figure 5-9 (Estimated Excess Lifetime Cancer Risks - Inorganic Compounds) add a figure showing total site risks minus the contribution from arsenic and beryllium. L. Miesner will add.

- Add discussion to report explaining that the estimated risks are conservative values. Groundwater, including inorganics, will be cleaned up to MCLs before

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distribution, and therefore, the public will not be exposed to groundwater at these concentrations or risks. L. Miesner will add.

o The following statement is made in a number of places in the report: "[M]ost inorganic chemicals present in groundwater are expected to be present at background concentrations within the study area. The levels of inorganic chemicals detected appear to be the result of oxidation of reduced minerals in the aquifer sediments and past agricultural activities throughout the region."

The agencies recommend changing this statement to: "[M]ost inorganic chemicals present in groundwater may be representative of background concentrations within the study area. The levels of inorganic chemicals detected could be the result of oxidation of reduced minerals in the aquifer sediments and past agricultural activities throughout the region. Sources of these chemicals are unclear, however, they are not thought to have arisen from military activities at the site." Revisions should be made in all locations where this statement occurs. L. Miesner will discuss with the Navy.

Exposure Point Concentrations:

Because of only two rounds of groundwater data, J. Christopher recommended using the maximum detected chemical concentration instead of the mean concentration which was used in the report to calculate risks.

L. Miesner disagreed with this recommendation for the following reasons: First, in a traditional EPA risk assessment, groundwater concentrations would be averaged for each well. This is what has been done for the OU-1 well-specific risk assessment. The next step in a traditional risk assessment would be to determine the 95 percent upper confidence level on the mean concentration for all wells within the exposure area. One of the advantages to the well-specific risk assessment is that this averaging step is eliminated and instead, the reader is provided with spatial information concerning estimated risks by well. Therefore, requiring that the maximum concentration be used in place of the average concentrations would require an additional conservative step which would not be required in a traditional risk assessment and would detract from the advantages to using the well specific method. In addition, this would be made even more conservative by requiring that the maximum concentration be used for each chemicals of potential concern (COPC) detected in a well even if these concentrations did not occur in the same sampling round.

Secondly, L. Miesner stated that this change is likely to require significant additional calculations and report revisions but is not likely to have a significant impact on the overall conclusions of the risk assessment. To support this second point, it was agreed that L. Miesner would talk with John Dolegowski/PjM and provide the agencies with available information concerning the differences in chemical concentrations between the two rounds of groundwater sampling. If it is agreed that the differences are not likely to have a significant impact on the calculated risks or site COPC or if only a small subset of chemicals show a significant difference, a discussion of the impact of these differences will be added to the Exposure Point Concentration section of the text and the uncertainties section. Final conclusions concerning the appropriate concentration to be used in the risk assessment were left until after the agencies

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review the information concerning differences in concentrations between the two sampling rounds.

Other issues discussed included:

- **Guidance:** J. Christopher requested that the Navy reference DTSC risk assessment guidance in the report. L. Miesner will discuss with the Navy.

- **Chemicals of Potential Concern:** J. Christopher would like the COPC section of the OU-1 Risk Assessment report to reference where in the Remedial Investigation (RI) Report the sampling results from which the COPC were selected can be found. L. Miesner will add this to the report.

- **Groundwater Pathway:** D. Stralka would like to see more discussion of the site hydrogeology. Can summarize RI Report discussion here and refer the reader to where in the RI Report further details can be found. L. Miesner will revise.

- **Secondary Pathways:** J. Christopher clarified that he was not necessarily requesting that the Navy quantitatively address secondary pathways such as homegrown meat and produce but that the report present justification for their exclusion. L. Miesner will add justification for exclusion to the report.

- **Toxicity Factors:** For chemicals with no EPA or DTSC toxicity factors, J. Christopher recommends using toxicity factors from surrogate chemicals for the risk assessment. J. Paull agreed, however, D. Stralka did not feel this was necessary. L. Miesner also did not think this was necessary and explained that the Navy had used all the toxicity factors EPA Region IX had used in their Preliminary Remediation Goals (PRG) calculations including Environmental Criteria and Assessment Office (ECAO) provisional values. (One exception to this is that the Navy has not used values withdrawn by the agency, which EPA Region IX has used in their screening evaluation). It was agreed that J. Christopher would propose surrogate chemicals to be used to evaluate COPC found in OU-1 which have no toxicity factors. A suggestion was made that these values be used to discuss why the COPC without toxicity values would not be expected to significantly contribute to risk. L. Miesner recommended that this discussion might be appropriate for the uncertainties section of the report.

- **Health Effects of Lead:** J. Christopher and D. Stralka agreed that it was not necessary to run Leadspread or the Integrated Exposure Uptake Biokinetic (IEUBK) model to address lead in groundwater in OU-1.

- **U.S. EPA vs. Cal/EPA Cancer Potency Factors:** J. Christopher had provided a list of wells in his review comments where the difference between the EPA and Cal/EPA calculated risks were greater than twofold. He had requested information on the chemicals contributing to this difference. L. Miesner provided a list by well; most differences were do to chromium VI and benzene. J. Christopher requested that this information be added to the text of the report. L. Miesner will add. J. Christopher would also like to see an expanded risk table for Cal/EPA risks similar to Table 5-4 which presents the EPA cancer risks broken down by chemicals group. L. Miesner will discuss with Navy.

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- **Risk Characterization:** J. Christopher recommends bulleting major chemical contributors to cancer risk in the same way the chemicals have been bulleted for the noncancer discussion. L. Miesner will add.

- **Well Specific Risk Assessment Methods:** D. Stralka would like this discussion expanded. Of particular interest is the differences between the methods used here and those used in a standard EPA risk assessment. Discussion should include pros and cons of the well specific method and why it is more appropriate for this site than other methods. L. Miesner will revise text.

Other Agreements:

1. Well risks would not be divided out by depth because it is assumed that groundwater across the entire saturated interval is a potential source of water supply.

2. Risk isopleths will not be added to the risk figures, this will be left to the Modelling Report.

3. Risk tables will not be broken down by chemical since this would make for a very large table and these results are already included in the appendix. Additional references to the appendices will be added to the text.

ACTION ITEMS:

1. L. Miesner will revise the report as agreed and discuss any outstanding issues with the Navy.

2. L. Miesner will provide the agencies with information concerning differences in chemical concentrations between the two rounds of sampling data.

3. J. Christopher will recommend surrogate toxicity values to be used in evaluating chemicals with no EPA or DTSC toxicity values.