M60050.000872 MCAS EL TORO SSIC # 5090.3	PROJECT NOTE NO. PN-0145-90 CLE-C01-01F145-I2-0065	PROJECT NO. 01-F145-H6

CONFIRMATION OF:	CONFERENCE	X	DATE HELD	06-07 July 1993
	TELECOM		DATE ISSUED	26 July 1993
	OTHER		RECORDED BY	S. Diehl/CH2M HILL
			PLACE	Santa Ana

SUBJECT

Contract Task Order (CTO) No. 145
Data Quality Objectives Meeting Minutes
Marine Corps Air Station El Toro
Remedial Investigation/Feasibility Study

PARTICIPANTS: (* DENOTES PART-TIME ATTENDANCE)

*A. Antipas - CH2M HILL/SEA
*J. Christopher - Cal-EPA/DTSC
*J. Lovenburg - CH2M HILL/SCO
*L. Miesner - CH2M HILL/SFO
*L. Nuzum - Code 1831
J. Dolegowski - CH2M HILL/SCO
C. Elliott - CH2M HILL/SAC
J. Broderick - RWQCB/SAR
Y. Chuang - CH2M HILL/SDO
J. Corbett - Code 1852.JC
G. Cummings - Code 1853.VC
J. Zarnoch - Cal-EPA/DTSC
C. Mitchell - MCAS El Toro
D. Richards - CH2M HILL/CVO
J. Hamill - EPA
A. Piszkin - Code 1831.AP
S. Diehl - CH2M HILL/SAC
S. Tindall - Bechtel Corp.
L. Vitale - RWQCB/SAR

ACTION REQ'D. BY	ITEM

The third meeting on Data Quality Objectives (DQOs) for the Marine Corps Air Station (MCAS) El Toro Remedial Investigation/Feasibility Study (RI/FS) was held in Santa Ana, CA at CH2M HILL on 06-07 July 1993. Participants represented the following organizations: the Naval Facilities Engineering Command, Southwest Division (SWDIV); MCAS El Toro; U.S. Environmental Protection Agency (EPA); California Regional Water Quality Control Board, Santa Ana Region (RWQCB-SAR); California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC); Bechtel Corporation (EPA's contractor) and CH2M HILL.

These meeting notes summarize the decisions reached, the action items, and the discussion of the meeting. The discussions of the meeting are not necessarily summarized in the order in which they were discussed, but rather summarized under logical topic headings. The topic headings are prioritized in relative order of importance to the DQO process.

Decisions Reached

- The Managers' Meeting planned for 21-22 July 1993 is cancelled.
- The next DQO Meeting will be held on 12-13 August 1993 in San Diego.
- Comments to meeting minutes will be provided to CH2M HILL in writing, and changes will be incorporated into the minutes of the following meeting.

Action Items

- The Navy will send a letter to EPA by 23 July 1993 requesting an extension for the Phase II planning documents.

PROJECT NOTE NO.	PROJECT NO.
PN-0145-90 CLE-C01-01F145-I2-0065	01-F145-H6

ACTION REQ'D. BY	ITEM
	o The Navy will consider implementing a removal action at Agua Chinon Wash. o MCAS El Toro will find out when the wellhead warning placards are going to be installed. o CH2M HILL will prepare a schedule for the soil gas investigation, showing the implications of the additional work. o CH2M HILL will prepare a position paper on background concentrations for groundwater, surface runoff and sediments. o CH2M HILL will revise the position paper on chemicals to be investigated during Phase II, stating that compounds that have been screened out may still be evaluated during Phase II. o CH2M HILL will provide a position paper on cutpoints before the next DQO meeting. o CH2M HILL will review Solid Waste Management Unit/Area of Concern (SWMU/AOC) 131 to decide whether it should be evaluated during the DQO process. o CH2M HILL will screen the data of SWMU/AOC 90 to evaluate whether it should be investigated further as part of Site 12 (Sludge Drying Beds) of the RI/FS. Findings will be reported at the next DQO meeting. o CH2M HILL will evaluate MCAS El Toro's National Pollutant Discharge and Elimination System (NPDES) permit data, and storm discharge permit data to determine if surface runoff contamination is due to on-Station activities. o CH2M HILL will send a copy of the Phase I RI database to Bechtel Corp. o CH2M HILL will update and provide a table summarizing organic chemicals detected in the subsurface soil below 10 feet. o CH2M HILL will contact its Florida offices to get information on soil column testing. o The regulatory agencies will complete additional planning on the proposed soil gas investigation, including objectives of the investigation, uses of the field data, which sites should be surveyed, and how the investigation will fit into the RI/FS schedule. o The regulatory agencies will review the position papers on chemicals of potential concern (COPCs) and chemicals to be investigated during Phase II, and will provide written comments. o Dan Stralka/EPA will comment on the proposed risk-based concentrations (RBCs).

PROJECT NOTE NO. PN-0145-90
CLE-C01-01F145-I2-0065

PROJECT NO. 01-F145-H6

ACTION REQ'D. BY	ITEM

- The regulatory agencies will comment on the position paper submitted by CH2M HILL on the proposed procedure to screen the chemicals to be investigated in Phase II.

- For validation/verification of VLEACH results, the RWQCB will provide a list of available sites with suitable petroleum hydrocarbon contamination and hydrogeologic conditions.

- John Broderick/RWQCB to provide approval of the operable unit definition position-paper upon receipt of the FFA extension letter from Navy.

Partnering Issues and Miscellaneous Issues

- CH2M HILL distributed notebooks containing all meeting minutes and position papers related to the DQO process prepared to date.

- Andy Piszkin/SWDIV requested that comments on meeting minutes be made in writing. They would be incorporated in the next meeting notes.

- John Hamill/EPA commented on the minutes from the 26-27 May 1993 Managers' Meeting; he stated that it was not only Bechtel's request but EPA's request that Bechtel receives copies of all meeting agendas, memoranda and position papers.

- Joe Zarnoch/DTSC indicated that positions related to pesticides/herbicides in the background soil samples had changed between the Managers' Meeting on 26-27 May 1993 and the DQO meeting on 09-10 June 1993. He wondered whether it was necessary to change the earlier meeting minutes, or if new notes would supersede old ones. Chuck Elliott/CH2M HILL replied that meeting minutes reflected the status of the evolving discussions and therefore old meeting minutes should not be changed.

- C. Elliott asked about the current status of the DQO schedule. J. Hamill responded that an extension until 9 November 1993 will be granted whenever the Navy sends in the letter request for the extension.

- J. Zarnoch said he will request an extension for the review of the Phase I Technical Memorandum (TM). A. Piszkin indicted that 17 July 1993 was a flexible due date for the review of the TM, since a second draft will not be issued. J. Hamill stated that comments from EPA will be faxed by the end of the week. He added that EPA did a comparison of the Sampling and Analysis Plan and the investigations described in the TM. J. Dolegowski asked the regulators to point out any technical errors if they would affect the conclusions drawn in the TM.

- John Christopher/DTSC stated that at some sites there were more strata than samples collected. This turned out to be a misunderstanding on the sampling approach which is presented in the Sampling and Analysis Plan Amendment (SAP Amendment).

PROJECT NOTE NO.	PROJECT NO.
PN-0145-90 CLE-C01-01F145-I2-0065	01-F145-H6

ACTION REQ'D. BY	ITEM

- J. Zarnoch indicated that the TM should not have stated the contamination at Site 3 was low, since samples had not been collected in the trash. C. Elliott said the TM should have stated the contamination detected in the samples was low.

- John Broderick/RWQCB stated that his agency had decided not to reply to the Navy's request for action-specific and chemical-specific applicable, relevant and appropriate regulations (ARARs). J. Zarnoch indicated that DTSC had already prepared a reply to the Navy's request.

Phase II Soil Gas Investigation

The regulatory agencies proposed that the Navy conduct a real-time combination soil gas survey-soil sampling investigation (hereafter referred to as soil gas investigation) during Phase II. A position paper was not prepared but EPA presented the proposal for discussion. Due to the interactive nature of the discussions, elements of EPA's proposal and the major points of discussion are summarized before the more detailed discussions.

Objectives of Investigation

The regulatory agencies believe implementation of the soil gas investigation will:

1) Save money during the Phase II field effort
2) Save time during the Phase II field effort
3) Keep the final Record of Decision (ROD) date.

Expected Results of Investigation

The soil gas investigation will help focus the Phase II field effort by dividing the RI/FS sites into three categories:

1) Sites that are contaminated, and therefore need removal actions
2) Sites that are clean, and therefore do not require further investigations
3) Sites with inconclusive results, but may only require a reduced field effort during Phase II

Scope of Investigation

The proposed investigation will cover all 22 RI/FS sites and the three new proposed sites.

Proposed Methodology

1) Hydraulically-driven geoprobes will be used to collect soil gas samples.

2) The samples will be rapidly analyzed using a field gas chromatograph/mass spectrometer (GC/MS) in the screening mode. The data would not require validation.

PROJECT NOTE NO.	PROJECT NO.
PN-0145-90 CLE-C01-01F145-I2-0065	01-F145-H6

ACTION REQ'D. BY	ITEM

3) Based on the MS screening results, volatile organic compounds (VOCs) will be analyzed at a more quantitative level using the GC/MS.

4) Soil samples will be collected from areas with detected VOC contamination and analyzed for semivolatile organics, metals, pesticides, etc. All chemical analyses will be conducted using a mobile laboratory.

5) Decisions on whether a site is clean, is contaminated, or requires further investigation will be based on results obtained using these field analytical instruments.

Major Points of Discussion

1) The regulatory agencies assume enough time will be saved during the Phase II field effort such that the final ROD date will remain unchanged. Internal due dates leading up to the ROD date may be renegotiated, but only after implementing the soil gas investigation. The regulatory agency team members are sympathetic to a possible extension to the ROD date, if necessary, but the request is not currently on the table for discussion.

2) The total time estimated for the Phase II field effort is four months. It is not clear that the time savings afforded by the soil gas investigation warrants its implementation. With the large amount of soil gas data expected to be generated, the time required for evaluation and compilation of the data may be lengthy.

3) Soil gas and confirmation soil samples are proposed for collection using geoprobes or similar equipment. This assumes subsurface conditions are conducive to such hydraulically-driven probes. Based on Phase I experience, CH2M HILL is skeptical that sampling at depth can be done without drilling rigs. If drilling rigs are required, the proposed savings in time will be reduced.

4) Areas with VOC contamination are assumed likely to be contaminated with other organics and potentially metals. This scenario assumes liberally that much, if not all, of the contamination at the Station comes from similar sources. Phase I data suggest the contrary.

5) Decisions made concerning the disposition of an RI/FS site are based on a high level (generally Level III and above) of quality assurance/quality control (QA/QC). Additionally, the detection limits of the field instruments may be higher than RBCs. There is insufficient backup information to suggest the field analytical methods meet the stringent QA/QC requirements and have low enough detection limits. The Navy requires written confirmation from the regulatory agencies that results from the soil gas investigation can be used to make decisions, especially on whether a site can be declared clean.

J. Hamill presented the soil gas investigation proposal as summarized above.

S. Tindall indicated that two vendors of the MS instruments will give presentations in the next few weeks. Both in San Diego on 20 July 1993 by Dr. Al Robbat/Tufts

PROJECT NOTE NO.	PROJECT NO.
PN-0145-90 CLE-C01-01F145-I2-0065	01-F145-H6

ACTION REQ'D. BY	ITEM

University, and on 26 July 1993 in Nebraska by Target, who did a traditional soil gas survey at MCLB Barstow for Jacobs Engineering.

C. Elliott expressed his concern that the results of the soil gas investigation would be inconclusive for the majority of the sites, which therefore would still require traditional soil sampling. He emphasized that it was necessary to move back the final ROD date before beginning the soil gas investigation. J. Hamill replied that the RWQCB, DTSC and EPA thought that much time would be saved with the soil gas survey, and they agreed it was worth taking a risk. He added that he wanted to try to convince EPA management to agree to an extension for the ROD date.

J. Dolegowski requested more detailed information on the size of the area to be investigated, on the number of samples to be taken and on detection limits. S. Tindall indicated that he had received proposals from three vendors. He presented the methodology quoting from a vendor's proposal: soil gas samples could be taken at 10 feet in depth in about 15 minutes, and analyzed with the GC/MS as an initial screening. If a hit were detected, then GC/MS would be used to complete a more quantitative analysis. The results would be available in five minutes, and according to Dr. Robbat they are statistically comparable to results from traditional analyses in certified laboratories. One rig could drive and sample 15 to 30 probes per day.

J. Dolegowski indicated that his main concern was not the new technology but the schedule. He stated that in order to support the FS, all classes of compounds, except for VOCs, needed traditional soil sampling in Phase II. A. Piszkin requested that the technical issues be discussed first and that they be separated from schedule issues.

C. Elliott reminded the team that the soil gas investigation would not necessarily find the sources of trichloroethylene (TCE). The source could be a dense non-aqueous phase liquid (DNAPL) source in the saturated zone, or it could be a deep vadose zone source. In both cases the soil gas investigation may fail to detect the source.

J. Broderick thought that, since MCAS El Toro is on the Base Realignment and Closure list, it was in the Navy's interest to perform the soil gas investigation at all 21 sites. Davi Richards/CH2M HILL questioned the necessity of such an investigation at sites in Operable Unit (OU)-3. Yueh Chuang/CH2M HILL emphasized that the logistics: coring of concrete, checking of underground utilities, scheduling around aircraft activities, were the main problem for the schedule. He asked that the objectives of the soil gas investigation be reiterated. S. Tindall replied that the first objective was to identify the source area of the regional TCE plume; the second objective was to sort the sites into those requiring (1) removal, (2) further investigation, and (3) no further investigation.

J. Dolegowski stated that even if some sites do not require further investigation, it will be difficult to document the results of soil gas investigation and revise the Work Plan and Sampling Plan prior to the start of Phase II field work.

A. Piszkin suggested that the team proceed with DQOS to do the Soil Gas Investigation as part of Phase II, and be very specific about objectives and scope. J. Zarnoch and C. Elliott agreed that it would be difficult to prepare DQOs and a sampling strategy without having the results of the soil gas investigation.

PROJECT NOTE NO.	PROJECT NO.
PN-0145-90 CLE-C01-01F145-I2-0065	01-F145-H6

ACTION REQ'D. BY	ITEM
	Hooshang Nezafati/CH2M HILL stated that a hit detected in shallow soil would not necessarily indicate a source, since VOCs migrate upwards through porous media. J. Broderick agreed with the statement; he said it would be necessary to drill with a conventional rig beyond that depth to confirm the hits. D. Richards remarked that would require having two field screening investigations. S. Tindall agreed and proposed the following procedure: (1) Collect soil gas samples and analyze with GC/MS for VOCs; (2) collect soil samples judgmentally in areas of detected VOC contamination and analyze in a mobile laboratory by thermal desorption analysis; and (3) use X-ray fluorescence analysis to screen for metals. J. Zarnoch rejected the proposal for areas with potential petroleum hydrocarbon contamination, because in those areas the proposed methodology would provide ambiguous results. J. Dolegowski raised the objection that VOCs are not necessarily good indicators for compounds of other classes of organics. He remarked that the detection limits of the field GC/MS for non-VOCs may be too high to compare them to RBCs. C. Elliott emphasized that it was critical to quickly make final decisions about the soil gas investigation, since such a decision may change the DQO process for many of the sites. Larry Nuzum/SWDIV stated that the Navy was very interested in soil gas investigations at other Navy facilities where no site boundaries and chemicals of concern had been established yet. He said that he was going to a presentation by a contractor on 10 July 1993 in San Diego, but he would support A. Piszkin and CH2M HILL on how to proceed with the MCAS El Toro RI/FS. J. Hamill summarized the two options the Navy has: (1) choose not to conduct a soil gas investigation, and deliver the DQOs and planning documents in November 1993, or (2) to conduct such an investigation this Fall, and have an uncertain schedule which probably will be extended. After initial discussions on the soil gas investigation, J. Dolegowski thought the team should briefly discuss it again. The issue had to be resolved quickly because of severe time constraints. He requested a list of detection limits for the portable GC/MS. J. Christopher thought that, considering the schedule and the potential contracting problems, MCAS El Toro might not be the appropriate site to apply the unproven technology. J. Broderick proposed to abandon the idea of a soil gas investigation all together, since the Navy did not seem interested in pursuing the idea. S. Tindall disagreed and stated that according to the contractors the savings for the field work would be 50-75 percent. C. Elliott remarked that the soil gas investigation would be a good idea if the ROD date can be delayed. J. Zarnoch suggested the Navy ask for more than a two-month extension based on new site conditions and the establishment of new sites. J. Dolegowski suggested that CH2M HILL prepare a revised schedule incorporating the soil gas investigation. He asked J. Hamill if he would support a schedule extension, and get approval from the EPA management. J. Hamill replied that a schedule extension may be approved if the request was based on new sites or cost savings.

PROJECT NOTE NO.
PN-0145-90
CLE-C01-01F145-I2-0065

PROJECT NO.
01-F145-H6

ACTION REQ'D. BY	ITEM

Background Concentrations

Surface Soil

C. Elliott distributed a position paper with a table of background concentrations of inorganics in surface soils. The background concentrations for pesticides/herbicides will not be used for screening, but are listed for informational purposes and for later use during the Baseline Risk Assessment.

J. Christopher remarked that the position of Dan Stralka/EPA was to first compare the data to the RBCs, and then to background levels. That was not according to EPA guidelines but rather D. Stralka's preference. A. Piszkin replied that the Navy's position was to determine the release first, then the risk.

J. Christopher asked whether any pesticides had been deleted by comparison to background. C. Elliott answered that only metals had been compared to background concentrations; all metals that were below the background concentration had been deleted from the COPC list.

D. Richards indicated that Beryllium was just above background levels at a few locations; that would not indicate a release, but would be a result of the conservative confidence level of 50 percent.

J. Christopher remarked that it was unusual to use the 99th percentile to calculate the background concentrations of chemicals. He stated that due to the 99th percentile, the background concentration for Arsenic was very high. He suggested to use a confidence level of 90 percent with the 95th percentile. C. Elliott replied that the high background value for Arsenic was reflecting the high variation of the data values. He explained that several confidence levels and percentiles had been evaluated for the background calculations, and the choice of 50 percent confidence and the 99th percentile seemed to be the most conservative approach.

Groundwater

J. Dolegowski suggested that the team discuss background issues for groundwater. He proposed to establish the background concentrations for chemical constituents in groundwater on a site-by-site basis in order to consider the changes in water quality across MCAS El Toro. J. Broderick stated his approval for a site-by-site approach. J. Dolegowski asked how the concentrations of nitrate, selenium and total dissolved solids (TDS) detected on Station could be compared to concentrations detected off-Station. J. Christopher suggested to screen the values with RBCs. C. Elliott expressed his concern that the Maximum Contaminant Levels (MCLs) established by the State would be exceeded in many cases. J. Broderick remarked that the Desalter Facility will have to remediate nitrate and selenium. He added that the traditional way of establishing a background for groundwater contaminants was to compare the contaminants detected in a well downgradient of a site with the ones detected in an upgradient well. C. Elliott indicated that the Navy was also interested in evaluating the incremental contamination due to site activities. J. Broderick again remarked that a site-by site evaluation was an appropriate way to proceed, but added that additional upgradient wells may be needed. D. Richards remarked that it was very important to

PROJECT NOTE NO.
PN-0145-90
CLE-C01-01F145-I2-0065

PROJECT NO.
01-F145-H6

ACTION REQ'D. BY	ITEM

establish background levels, since the RWQCB does not require clean-up below background levels. J. Christopher wondered what had to be done if, for example, there was an increase in selenium across the Station that was not related to Station activities. J. Broderick replied that the Navy would have to demonstrate that the increase was natural. He suggested that the Navy compare wells upstream and downstream of the Station as a whole. H. Nezafati asked whether other studies could be used to demonstrate that compounds, e.g. selenium, are naturally occurring. J. Broderick approved this under the condition that the literature values are for the same hydrogeological system. J. Dolegowski asked what difference in the comparison of upgradient and downgradient wells would drive an action. J. Broderick answered that it only depended on the standards being applied.

Surface Water and Sediments

For surface water and sediments, J. Broderick suggested that values upstream and downstream of the Station be compared. He also recommended that the Navy examine NPDES monitoring data to enlarge the data set being investigated. He stated that the RWQCB always prefers regional comparisons; however it would agree to site-by-site comparisons if necessary.

EPA Review of Risk-Based Concentrations

S. Tindall stated that Bechtel had reviewed Section 7.0 (Preliminary Baseline Risk Assessment) of the TM, but did not evaluate the RBCs specifically. D. Stralka had only reviewed Bechtel's comments, but not the RBCs. J. Dolegowski indicated that CH2M HILL has interpreted the lack of comments as approval of the proposed RBCs. A. Piszkin agreed with that and indicated the Navy felt comfortable that the calculations of the RBCs were done in accordance with EPA guidelines. The MCAS El Toro RBCs would therefore be used during the DQO process, and EPA comments would be incorporated in the final RI/FS report.

Chemicals of Potential Concern

C. Elliott handed out a draft list of all COPCs and explained how to read the table. The compounds were sorted by site and medium, with the highest detected concentration listed as "Value Detected". The list consisted of all detected organic compounds and all inorganic compounds exceeding background concentrations. J. Dolegowski explained the recent data validation activities performed to account for field blank contamination and laboratory blank contamination. The corrected data were incorporated into the COPC list. The draft table still contained parameters that are of no concern such as pH and carbonate. These parameters will be deleted from the final list.

Chemicals to be Investigated in Phase II

C. Elliott distributed the position paper on chemicals to be investigated during Phase II. The paper included a table of classes of chemicals to be investigated, sorted by site and stratum. J. Broderick stated that the proposed process to identify the chemicals to be investigated did not include the step of checking whether the chemical had been used elsewhere on the Station. C. Elliott agreed to add a paragraph to the position

PROJECT NOTE NO.	PROJECT NO.
PN-0145-90 CLE-C01-01F145-I2-0065	01-F145-H6

ACTION REQ'D. BY	ITEM

paper stating that compounds that have now been screened out may still be sampled for in Phase II if the team considered this to be necessary.

Subsequent to the initial discussions, J. Hamill asked whether the approach explained on pages 3 to 5 in the SAP Amendment still applied to the selection of COPCs. C. Elliott replied that the approach had been redefined for the DQO process. He reassured the agencies that if they consider it necessary, a chemical class would be investigated further even if it had been screened out by the new process.

Cutpoints

C. Elliott suggested that cutpoints not be set for each compound, but that the risk assessment be relied upon to determine if a site needs to be remediated. J. Christopher agreed to the proposal. However, the risk had to be assessed in three ways: (1) for human receptors, (2) for non-human receptors, and (3) for groundwater. All three pathways had to be screened out for a site to be considered clean.

A discussion on cutpoints and RBCs then ensued. J. Dolegowski stated that cutpoints for individual chemicals would be too simplistic, since a compound could be below the individual cutpoint, while the sum of compounds could exceed the RBC. J. Christopher replied that a cutpoint would reflect the cumulative risk, calculated after assessing the risk. He suggested that the total risk be used as the first cutpoint, and to allow room during negotiations on the final remedial objectives and for management decisions. J. Hamill suggested to call VIAR to make them aware of the difficulty in establishing cutpoints at sites where different contaminants have been detected.

C. Elliott said he would prepare a position paper on cutpoints and distribute it prior to the next meeting.

Operable Unit Definitions

D. Richards distributed an updated version of the operable unit definitions, and presented the changes the team had agreed on during the last DQO meeting on 09-10 June 1993. C. Elliott asked when the regulatory agencies could give their approval of the redefinitions. J. Zarnoch and J. Hamill accepted the position paper. J. Broderick argued that approval was tantamount to changing the Federal Facilities Agreement (FFA), and that the redefinitions could not be accepted formally until the FFA is changed and mutually agreed on. He agreed to formalize an agreement on the position paper once the Navy has sent in the request for the schedule extension.

Potential Remedial Actions at RI/FS Sites

D. Richards distributed two tables summarizing the preliminary identification of technology process options for groundwater and soils at MCAS El Toro. The remedial technologies were screened for the general MCAS El Toro area. D. Richards explained that a description of site-specific process options would follow.

PROJECT NOTE NO. PN-0145-90
CLE-C01-01F145-I2-0065

PROJECT NO. 01-F145-H6

ACTION REQ'D. BY	ITEM

RCRA Facility Assessment Sites to be Evaluated during the DQO Process

Susan Diehl/CH2M HILL distributed a memorandum that listed the type and location of former RCRA Facility Assessment (RFA) sites that have to be considered during the DQO process. J. Zarnoch was pleased that the three sites of concern to the DTSC was included in the list. A. Piszkin asked whether these sites had already been evaluated during the RFA. S. Diehl explained that none of the sites had been investigated; however, some of the sites had been inspected visually.

J. Zarnoch asked whether SWMU/AOC 131 (Engine Test Cell) should be investigated under the RI/FS. According to the minutes of the Managers' Meeting of 26-27 May 1993, the team had agreed that the site be investigated outside the Superfund Program. However, J. Zarnoch suggested that CH2M HILL evaluate SWMU/AOC 131 because of polynuclear aromatic hydrocarbon (PAH) contamination. C. Elliott agreed to consider the site and to report back at the next DQO meeting.

Solid Waste Management Unit/Area of Concern 90

C. Elliott distributed data tables and figures pertaining to SWMU/AOC 90 (Wastewater Treatment Plant), located east of Site 12 (Sludge Drying Beds) of the RI/FS. J. Zarnoch asked whether the sample depth of 5 feet was adequate. If there had been surface impoundments, for example, the samples may have been taken in imported fill material. Y. Chuang replied that aerial photographs indicated no surface impoundments had been located in that area. The RFA site consists of the former location of the Station's wastewater treatment plant. Sludge drying beds and surface impoundments were located within the boundaries of Site 12. C. Elliott suggested screening the RFA sample results against RBCs, and report back at the next DQO meeting.

J. Zarnoch asked if the regulatory agencies would receive copies of the aerial photograph analysis report submitted by Science Applications International Corporation. A. Piszkin indicated that they would, and estimated that the copies would be available in approximately two weeks. Y. Chuang indicated that the scales of the aerial photographs were small (1 inch = 1600 feet to 3000 feet) and only larger features could be evaluated with confidence.

Risk Associated with Petroleum Hydrocarbons

Liz Miesner/CH2M HILL distributed a position paper on the human health evaluation of sites with potential petroleum hydrocarbon contamination. The paper presented the proposal to base the human health evaluation of these sites on the RBCs for specific organic compounds, namely benzene, toluene, xylenes, ethylbenzene and the various PAHs found in fuel mixtures.

Petroleum Hydrocarbons

Y. Chuang indicated that the position paper on petroleum hydrocarbons had been distributed on 30 June 1993 after the Technical Review Committee meeting. He briefly summarized the position to apply California Leaking Fuel Tank (CA LUFT) Field Manual levels to screen petroleum hydrocarbons detected in subsurface soils during Phase I.

PROJECT NOTE NO. PN-0145-90
CLE-C01-01F145-I2-0065

PROJECT NO. 01-F145-H6

ACTION REQ'D. BY	ITEM

J. Broderick emphasized that other standards should be considered in the evaluation of Phase II data.

VLEACH Calibration/Validation

J. Broderick informed the team members that the RWQCB had researched the availability of existing petroleum hydrocarbon-contaminated sites to calibrate the VLEACH vadose zone contaminant transport model. He indicated that there were several sites near MCAS Tustin. C. Elliott said that he thought the water table in the Tustin area was so shallow that they would not be appropriate for calibration of VLEACH. J. Broderick confirmed that the groundwater near Tustin was only 12 to 20 feet below ground surface (bgs). S. Tindall mentioned that CH2M HILL had worked on soil column-testing in Florida. Y. Chuang agreed to contact the Florida offices of CH2M HILL to find out what has been done there; however, he expressed his skepticism as to the utility of soil column test data for model calibration. J. Broderick added that The Earth Technology Corporation had been using soil gas data to calibrate VLEACH in Northern California. H. Nezafati expressed his concern that it may not be possible to calibrate the migration model. J. Broderick agreed that a calibration of VLEACH would be hard to achieve, and he suggested use of the term "validation" instead of "calibration". He then stated that the RWQCB would put together a map of all available sites with petroleum hydrocarbon contamination and a depth to groundwater of at least 50 feet.

Soil Depth Cutoff

Y. Chuang distributed a position paper on the soil cutoff depth. The paper reflected the position agreed upon by the team during the 09-10 June 1993 DQO meeting; the cutoff depth for surface soil had been set at 10 feet bgs.

Data Quality Objectives for Site 2 (Magazine Road Landfill)

Because of the lack of time, the DQOs for Site 2 were not discussed. Y. Chuang distributed background information on the site, and the team members agreed to work on the DQOs at the next meeting.

Fuel Hydrocarbons Exceeding California LUFT Levels in Soils

S. Diehl distributed a table and accompanying explanations of fuel hydrocarbons in soil at the 22 RI/FS sites. The detected concentrations were screened according to the scoring system of the CA LUFT field manual. The table replaced the older version distributed at the 09-10 June 1993 DQO meeting. S. Diehl indicated that the angle borings at the washes had been measured in the field, and the actual depth of a sample below the bottom of the wash was now listed in the new table.

Lining of the Surface Drainage Channels

A. Piszkin informed the team members that Shawn Thompson/City of Irvine had indicated that the lining construction for Agua Chinon Wash will begin in August 1993. Chrisa Mitchell/MCAS El Toro stated that the weir at Bee Canyon Wash was being repaired, and that the wash would probably be lined next year. J. Broderick asked

PROJECT NOTE NO. PN-0145-90
CLE-C01-01F145-I2-0065

PROJECT NO. 01-F145-H6

ACTION REQ'D. BY	ITEM

about remedial activities at Site 2. A. Piszkin stated that an Action Memorandum is being written, and that removal actions at the landfill had begun. The work will be finished before the next rainy season during the winter months.

Nonparticipant Distribution

R. Green - Code 0232
K. Reynolds - Code 1841
J. Allen - Code 0232.JA
K. Tomeo - CH2M HILL/SCO

File - CTO Notebook/PMO
File - PMO
File - CH2M HILL

DQO MEETING NO. 3
MARINE CORPS AIR STATION EL TORO RI/FS

6 & 7 July 1993
10:00 A. M.

Location: **CH2M HILL/Santa Ana**
2510 Red Hill Avenue
Malibu Conference Room
Santa Ana, CA 92705

Tuesday

1000 - 1030 Partnering Issues--Andy Piszkin

- Introductions
- Team Health and Communication Check
- Distribution of DQO Binders
- Procedure for dealing with comments on meeting minutes
- Consolidation of DQO/RPM Meetings
- Confirm next DQO meeting date
- Schedule for DQOs and Planning Documents
- Review agenda topics and time limits

1030 - 1045 Lining of the Washes--Andy Piszkin

1045 - 1100 RFA Sites To Be Evaluated During the DQOs--Susan Diehl

1100 - 1130 SWMU/AOC 90: Include as Part of Site 12?--Chuck Elliott

1130 - 1145 Potential Remedial Actions at RI/FS Sites--Davi Richards

1145 - 1200 Fuel Hydrocarbons Exceeding LUFT Levels in Soils--Susan Diehl

Lunch

1330 - 1600 Phase II Soil Gas Investigation: Regulatory Agency Position

1600 - 1700 Operable Unit Definitions--Davi Richards

Wednesday

0900 - 0930 Chemicals of Potential Concern--Chuck Elliott

0930 - 1030 Chemicals to be Investigated in Phase II--Chuck Elliott

1030 - 1100 Background: Surface and Subsurface Soil--Chuck Elliott

1100 - 1115 Soil Depth Cutoff--Yueh Chuang

1115 - 1130 Petroleum Hydrocarbons--Yueh Chuang

1130 - 1200 Risk Associated with TPH and TFH-Gas/Diesel--Liz Miesner

Lunch

1330 - 1430 Cutpoints--Chuck Elliott

1500 - 1630 DQOs for Site 2: Background Presentation

- Summary of Historic and Phase I Data--Yueh Chuang
- Results of SAIC Aerial Photo Assessment and Implications for Site/Strata Boundaries--John Lovenburg and Susan Diehl
- Conceptual Site Model--Liz Miesner
- Potential Remedial Actions--Davi Richards
- Chemicals of Potential Concern and Chemicals to be Investigated in Phase II--Chuck Elliott

1630 - 1700 Meeting Assessment and Reality Check--Andy Piszkin

- Summarize key points and goals accomplished
- Action items
- Assessement

1700 Adjournment

Action Items: 26-27 May 1993 Managers' Meeting

- The Navy will request an extension to the due date for the Phase II Work Plan specified in the Federal Facilities Agreement (FFA) based on the proposed redefinition of Operable Unit (OU)-2/OU-3/OU-4 sites. The new definition includes the possible creation of sites specifically targeted at locating source areas.

- The Navy will request immediate action by the agencies to approve the proposed risk-based criteria for use during the DQOs.

- The Navy will write EPA a letter detailing the OU-1 FS concensus approach.

- MCAS El Toro will provide documentation on the research done to determine the typical depth of construction (8 feet) in areas surrounding the Station.

for screening.

- RWQCB will research the availability of existing petroleum hydrocarbon-contaminated sites to calibrate VLEACH.

- CH2M HILL will provide a list of RFA sites within RI/FS site boundaries that need to be considered in the DQO process.

- MCAS El Toro will write a letter concerning the wellhead warning placards.

- DTSC will call RWQCB to arrange a visit to observe the second round of groundwater sampling at MCAS El Toro.

- CH2M HILL will update and provide the two tables summarizing organic chemicals in the subsurface.

- CH2M HILL will send a copy of the Phase I RI database to Bechtel.

- EPA will respond to the FS consensus memorandum on OU-1.

- CH2M HILL will revise the meeting notes from the DQO meeting on 10-11 May to reflect agency comments.

- CH2M HILL will prepare for the discussion of DQOs for two sites at the next DQO meeting on 6-7 July.