



BECHTEL NATIONAL INC.

CLEAN II TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N-68711-92-D-4670

Document Control No.: CTO-0171/0036

File Code: 0333

TO: Contracting Officer  
Naval Facilities Engineering Command  
Southwest Division  
Mr. Richard Selby, Code 57CS1.RS  
Building 127, Room 112  
1220 Pacific Highway  
San Diego, CA. 92132-5190

DATE: September 18, 1998

CTO #: 0171

LOCATION: MCAS El Toro

FROM: [Signature]  
D. J. Tedaldi, Ph.D., P.E., Project Manager

DESCRIPTION: Response to Regulatory Comments on the Quality Assurance Project Plan and  
Field Sampling Plan for Groundwater Monitoring of Perchlorate

DTD September 1998

TYPE: Contract Deliverable  (Cost) X CTO Deliverable (Technical) Other

VERSION: NA REVISION #: NA

ADMIN RECORD: Yes  No  Category Confidential   
(PM to Identify)

SCHEDULED DELIVERY DATE: 9/21/98 ACTUAL DELIVERY DATE: 9/18/98

NUMBER OF COPIES SUBMITTED: 10/5C/5E

COPIES TO (Include Name, Navy Mail Code, and No. of Copies):

**SWDIV:**  
G. Steinway, Code 56MC.GS (O)  
J. Rogers, Code 57CS3.JR (1C/1E)\*  
D. DeMars, Code 56MC.DBD (1C/1E)  
A. Piszkin, Code 56MC.AP (1C/1E)  
M. Pound, Code 5722.MP (1C/1E)  
N. Ancog, Code 5722.NA (1C/1E)

**BECHTEL** (Distributed by Bechtel):  
K. Kapur (1C)  
D. Tedaldi (1C/1E)  
P. Wiegand (1C/1E)  
B. Coleman (2E AR, and 1E IR)  
El Toro File (1C/1E)  
BNI Document Control (1C/1E)

**OTHER** (Distributed by Bechtel):  
J. Joyce, El Toro (BEC) (1C/1E)  
G. Kistner, US EPA (1C/2E)  
P. Hannon, CRWQCB (1C/1E)  
T. Mahmoud, Cal EPA (1C/2E)  
F. Seto, Cal EPA (1C/1E)  
R. Herndon, OCWD (1C/1E)  
R. Bell, IRWD (1C/1E)

O = Original Transmittal Sheet  
C = Copy Transmittal Sheet  
E = Enclosure  
\* = Unbound

Date/Time Received

# Bechtel

401 West A Street  
Suite 1000  
San Diego, CA 92101-7905

CLEAN II Program  
Bechtel Job No. 22214  
Contract No. N68711-92-D-4670  
File Code: 0222  
**IN REPLY REFERENCE: CTO-00171/0036**

September 18, 1998

Contracting Officer  
Naval Facilities Engineering Command  
Southwest Division  
Mr. Richard Selby, Code 57CS1.RS  
Building 127, Room 112  
1220 Pacific Highway  
San Diego, CA 92132-5190

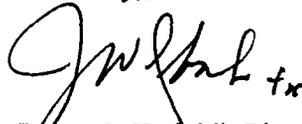
Subject: Response to Regulatory Comments on the Quality Assurance Project Plan and Field Sampling Plan for Groundwater Monitoring of Perchlorate Marine Corps Air Station, El Toro, California

Dear Mr. Selby:

It is our pleasure to submit this copy of the Response to Regulatory Comments on the Quality Assurance Project Plan and Field Sampling Plan for Groundwater Monitoring of Perchlorate, Marine Corps Air Station, El Toro, California, prepared under Contract Task Order (CTO) 0171 and Contract No. N68711-92-D-4670. We gratefully acknowledge the high level of cooperation and team work demonstrated by personnel from Southwest Division during the execution of this project.

We appreciate the opportunity to be of service to you on this project. If you have any questions or would like further information, please contact CTOL, Pat Wiegand, at (619) 687-8850 or me at (619) 687-8780.

Sincerely,



Dante J. Tedaldi, Ph.D., P.E.  
Project Manager

DJT/sp

Enclosure: Response to Regulatory Comments on the Quality Assurance Project Plan and Field Sampling Plan for Groundwater Monitoring of Perchlorate



**Bechtel National, Inc.** Systems Engineers-Constructors

**RESPONSE TO COMMENTS  
FIELD SAMPLING PLAN (FSP) AND  
QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR  
GROUNDWATER MONITORING OF PERCHLORATE  
MCAS EL TORO, CALIFORNIA**

<p><b>Originator:</b> Tayseer Mahmoud, RPM DTSC</p> <p><b>To:</b> Joseph Joyce, BRAC Environmental coordinator Navy</p> <p><b>Date:</b> September 8, 1998</p>	<p><b>CLEAN II Program</b> Contract No. N68-711-92-D-4670 CTO-171 File Code: 0222</p>
<p><b><u>GENERAL COMMENTS</u></b></p> <p>1. <b><u>FSP, Section 2.2.2 Recent Base Operations</u></b> – Delete reference to the on-Station RCRA Interim-Status Storage Facility because El Toro has closed the RCRA storage facility and DTSC accepted the closure certification in March 1996. Currently, hazardous materials/wastes are managed under appropriate Federal, State, Local, and DoN requirements.</p>	<p><b><u>RESPONSES TO GENERAL COMMENTS</u></b></p> <p><b>RESPONSE 1:</b> This reference has been deleted in Section 2.2.2.</p>
<p>2. <b><u>FSP, Section 6.8.1 Groundwater</u></b> – According to the FSP, groundwater produced during purging and sampling will be stored and treated at the waste staging area treatment system (granular-activated carbon). Please verify whether or not this treatment technology is effective for the destruction of Perchlorate in the groundwater. Have there been any studies to support this premise?</p>	<p><b>RESPONSE 2:</b> The WSA treatment system (granular-activated carbon) is not effective in removing perchlorates from water. The section has been revised to indicate that the purged groundwater will be stored at the WSA until an appropriate treatment method has been identified.</p>
<p>3. <b><u>FSP, Section 5.3 Quality Control</u></b> – Page 5-2 listed the field quality control samples. It may be useful for field quality control samples to include split samples. We recommend a split sample collection frequency of 5 percent to 10 percent with a minimum of one per sampling event. The split samples should be analyzed by different certified labs per analytical method, Determination of Perchlorate by Ion Chromatography, Revision 0.0 Sanitation and Radiation Laboratory Branch, DHS, State of California, June 31, 1997. The analysis results of the split samples from different labs should provide valuable verification information.</p> <p>I would like to point out that DTSC will be taking split samples in support the perchlorate study. Please send us the field sampling schedule for each proposed sampling location two weeks before the sampling takes places.</p>	<p><b>RESPONSE 3a:</b> Because the DTSC will collect split samples for perchlorate analysis during the perchlorate study, it appears that this activity will satisfy their request for split samples.</p> <p><b>RESPONSE 3b:</b> A field schedule for the proposed sampling locations will be provided to the DTSC as soon as it has been finalized.</p>

**RESPONSE TO COMMENTS  
FIELD SAMPLING PLAN (FSP) AND  
QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR  
GROUNDWATER MONITORING OF PERCHLORATE  
MCAS EL TORO, CALIFORNIA**

<p><b>Originator:</b> Tayseer Mahmoud, RPM DTSC</p> <p><b>To:</b> Joseph Joyce, BRAC Environmental coordinator Navy</p> <p><b>Date:</b> September 8, 1998</p>	<p style="text-align: right;"><b>CLEAN II Program</b> Contract No. N68-711-92-D-4670 <b>CTO-171</b> File Code: 0222</p>
<p><b>4. <u>Quality Assurance Project Plan</u> – The QAPP for groundwater monitoring of perchlorate has substantially complied with pertinent elements of the EPA requirements for Quality Assurance Project Plans for Environmental Data Operations, EPA QA/R-5, Draft Final, July 1993. The analytical method and the quality controls are consistent with the project’s data quality objectives with respect to items such as accuracy, precision, and detection limits (detection limits should be 4 µ/l).</b></p>	<p><b>RESPONSE 4:</b> The reported detection limit should have read “4 µg/L”. The text of Sections 3.2.4.1 and 6.4.2 of the QAPP have been revised appropriately.</p>

**RESPONSE TO COMMENTS  
FIELD SAMPLING PLAN (FSP) AND  
QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR  
GROUNDWATER MONITORING OF PERCHLORATE  
MCAS EL TORO, CALIFORNIA**

<p><b>Originator:</b> Joe Eidelberg, Chemist USEPA</p> <p><b>To:</b> Glenn Kistner, RPM USEPA</p> <p><b>Date:</b> September 3, 1998</p>	<p style="text-align: right;"><b>CLEAN II Program</b> Contract No. N68-711-92-D-4670 CTO-171 File Code: 0222</p>
<p><b><u>COMMENTS ON THE QAPP</u></b></p> <p>1. <b><u>QAPP, Section 1.3, Project Description</u></b> - The text states that perchlorate has been previously identified in shallow groundwater. It is recommended that further information be provided to summarize the previous study including the following information: cite the study author, report title, and date; and state the analytical method previously used. If the previous method differs from that being proposed, please forward a copy of the previous laboratory's standard operating procedure to EPA.</p>	<p><b><u>RESPONSES TO COMMENTS ON THE QAPP</u></b></p> <p><b>RESPONSE 1:</b> Information related to the two previous studies in which perchlorate analyses were performed for groundwater samples from MCAS El Toro groundwater monitoring wells has been added to Section 1.3. A copy of the DHS method "Determination of Perchlorate by Ion Chromatography" proposed for perchlorate analysis for this study will be enclosed with the EPA's copy of the Final Quality Assurance Project Plan (QAPP) for Groundwater Monitoring of Perchlorate MCAS El Toro, California.</p>
<p>2. <b><u>QAPP, Table 3-1, Data Quality Objectives for Groundwater Monitoring of Perchlorate</u></b> - It is recommended that the following items be addressed:</p> <p>Step 2 of the process states that if perchlorate concentrations in the groundwater exceed the action level of 18 ug/L, the need for further action will be evaluated. It is recommended that this decision be explained in further detail. For example, will a single measurement greater than 18 be sufficient, or is the decision to be based on the average, median, or 95% upper confidence level of the entire data set?</p> <p>Section 1.1 of the QAPP states that another objective of the project is to evaluate whether MCAS El Toro is a probable source of perchlorate in the groundwater. This requires another DQO formulation, as done in Table 3-1.</p>	<p><b>RESPONSE 2a:</b> Step 2 has been clarified to state that if a single measurement obtained from a groundwater sample collected from any of the groundwater monitoring wells exceeds the proposed action level of 18 ug/L, the need for further action will be evaluated.</p> <p><b>RESPONSE 2b:</b> This statement has been removed from Section 1.1.</p>
<p>3. <b><u>QAPP, Section 3.2.4.1, Analytical Methods and Detection Limits</u></b> - It is recommended that the following items be addressed:</p> <p>It is recommended that the term "reporting detection limit" be</p>	<p><b>RESPONSE 3a:</b> The definition for the term "reporting detection limit" has</p>

**RESPONSE TO COMMENTS  
FIELD SAMPLING PLAN (FSP) AND  
QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR  
GROUNDWATER MONITORING OF PERCHLORATE  
MCAS EL TORO, CALIFORNIA**

<p><b>Originator:</b> Joe Eidelberg, Chemist USEPA</p> <p><b>To:</b> Glenn Kistner, RPM USEPA</p> <p><b>Date:</b> September 3, 1998</p>	<p><b>CLEAN II Program</b> Contract No. N68-711-92-D-4670 CTO-171 File Code: 0222</p>
<p>defined. In addition, it is recommended that the method should be able to quantify at 9 ug/L. A reporting detection limit of 10 ug/L may be too high.</p> <p>Please forward a copy of the method "Determination of Perchlorate by Ion Chromatography," Revision 0.0 to the EPA QA Office for review. In addition, once the laboratory is chosen please forward the laboratory SOP to the QA Office for review.</p>	<p>been added to Section 3.2.4.1. In addition, the reporting detection limit indicated is "4 µg/L".</p> <p><b>RESPONSE 3b:</b> See response to Comment 1. A copy of the laboratory SOP will also be enclosed.</p>
<p><b><u>COMMENTS ON THE FSP</u></b></p>	<p><b><u>RESPONSES TO COMMENTS ON THE FSP</u></b></p>
<p>4. The FSP states that perchlorate is most likely from ordnance or rocket propellants and goes on to discuss other compounds such as 2,4,6-trinitrotoluene. It is recommended that clarification be provided as to whether perchlorate is also being used as an indicator compound for other chemicals associated with ordnance or propellants.</p>	<p><b>RESPONSE 4:</b> This reference has been removed from the FSP. It was not intended for perchlorate to be used as an indicator compound for any other chemicals.</p>
<p>5. <b>FSP</b> - Please provide the name, address, and telephone number of the laboratory to be used for perchlorate analyses.</p>	<p><b>RESPONSE 5:</b> This information has been added to Section 4.1 of the FSP.</p>
<p>6. <b>FSP</b> - The background information for previous perchlorate analyses suggests that perchlorate measurements varied by depth, however, there was no discussion about possible depth correlation in relation to possible sources. Nor was there any discussion about the depth of the sampling locations in Table 4-1. It is recommended that these comments be addressed. It may be helpful if a geologic cross-sectional diagram was provided, in which sampling locations are marked.</p>	<p><b>RESPONSE 6:</b> The information requested will be provided in the report presenting the results of the perchlorate sampling. Previous sampling was performed to only to identify perchlorate in groundwater. These results serve as a basis for this investigation. The vertical and/or horizontal extent of perchlorate in groundwater at MCAS El Toro has not been identified.</p>
<p>7. It is recommended that a document control number system be used to control distribution of the subject documents.</p>	<p><b>RESPONSE 7:</b> Both the QAPP and FSP were given unique document identification numbers presented on the title page (CTO-0171/0021 and CTO-0171/0022, respectively). The final versions of these documents have also</p>

**RESPONSE TO COMMENTS  
FIELD SAMPLING PLAN (FSP) AND  
QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR  
GROUNDWATER MONITORING OF PERCHLORATE  
MCAS EL TORO, CALIFORNIA**

<p><b>Originator:</b> Joe Eidelberg, Chemist USEPA</p> <p><b>To:</b> Glenn Kistner, RPM USEPA</p> <p><b>Date:</b> September 3, 1998</p>	<p style="text-align: right;"><b>CLEAN II Program</b> Contract No. N68-711-92-D-4670 CTO-171 File Code: 0222</p>
	<p>been given unique document identification numbers. To avoid confusion between the original documents and the final versions "Final" has been added to the title of both final documents.</p>
<p><b>8. Please remove any description of the concentrations of the double blind PE samples in the plans. It should be noted that the description of the PE samples usage is otherwise good and the suggested concentrations show good judgement.</b></p>	<p><b>RESPONSE 8:</b> The descriptions of the concentrations of the double blind PE samples have been removed from the Final QAPP and Final FSP. The suggested concentrations are understood to have been accepted by the EPA.</p>