



PROJECT NOTE NO. PN-0145-150 CLE-C01-01F145-I2-0093	PROJECT NO. 01-F145-H6
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CONFIRMATION OF:	CONFERENCE	DATE HELD	19 January 1995
	TELECOM	DATE ISSUED	03 February 1995
	OTHER	RECORDED BY	J. Dolegowski/CH2M HILL
	X	PLACE	Santa Ana, California
SUBJECT	Contract Task Order (CTO) No. 145 OU-1 Interim Action Feasibility Study (IAFS) Discharge Options ARARs MCAS El Toro RI/FS		

PARTICIPANTS: (* DENOTES PART-TIME ATTENDANCE)

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ACTION REQ'D. BY	ITEM
	<p>A meeting was held in the CH2M HILL Santa Ana office on 19 January 1995, from approximately 10:00 until 11:30 to discuss Applicable or Relevant and Appropriate Requirements (ARARs) for groundwater discharge options to support the Interim Action Feasibility Study (IAFS) for Operable Unit 1 (OU-1) of the Marine Corps Air Station (MCAS) El Toro Remedial Investigation/Feasibility Study (RI/FS). The specific purpose of the meeting was to prepare for a meeting with the Santa Ana Regional Water Quality Control Board (SARWQCB) later the same day by discussing potential regulatory or administrative constraints to reinjection of treated groundwater.</p> <p><u>Discussion Topics</u></p> <p>A memorandum that listed key topics for discussion was distributed (attached). Three issues were stated as a basis for the discussion:</p> <ol style="list-style-type: none"> 1. The treated groundwater (following removal of volatile organic compounds [VOCs]) is not wastewater, and is not subject to discharge requirements intended for wastewater. 2. Extraction of groundwater for VOC removal and reinjection will not degrade the aquifer, but will actually restore groundwater quality. 3. Based on technical analysis completed by CH2M HILL, data collected and analyzed for MCAS El Toro indicates that total dissolved solids (TDS) and nitrate contamination in the aquifer is "background" to MCAS El Toro, although the nitrate contamination appears to be of human origin.



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Precedent for ReInjection

Rex Callaway/Code 09C.RC asked CH2M HILL if they had previous experience with reInjection for a groundwater remediation project. Natasha Raykhman/CH2M HILL stated that she worked on a similar project where reInjection was sought as a disposal option for treated groundwater. ReInjection was denied by the regulators based on the presence of naturally occurring selenium in groundwater above the U.S. Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL). The treated groundwater was discharged to a sewer line rather than reInjected. Although this case was argued with the SARWQCB (it is unclear to what level the argument was taken), the economics of the case favored sewer disposal. Public opinion would have favored reuse or reInjection (drought conditions at the time).

Technical Issues Regarding ReInjection

Concern was expressed over the assumed requirement to extract and reInject groundwater into the same aquifer or same stratum of the aquifer. It is difficult to demonstrate that injected water will not migrate or displace groundwater. We need to sound the SARWQCB regarding how tightly reInjection will be regulated in this regard.

Questions Developed for the Meeting with the SARWQCB

1. Can groundwater extracted from one of the three subbasins be reInjected into another subbasin?
2. If TDS or nitrate concentrations vary from the extraction to reInjection points, will that be considered a different stratum of the aquifer? We would not plan to reInject poor quality groundwater into better quality groundwater (seems to violate the intent of antidegradation).
3. Would reInjection of better quality groundwater into poorer quality groundwater be acceptable?
4. How is the SARWQCB's position regarding reInjection supported by policies, cases, regulations? (Try to obtain citations and references.)
5. Do Basin Water Quality Objectives apply to shallow groundwater (groundwater that is not used for production wells)?
6. How will the varying Total Dissolved Solids (TDS) concentrations in the aquifer affect the design of the extraction and reInjection system?
7. How are "background" concentrations considered in establishing and implementing Basin Quality Objectives?



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Attendees

Rex Callaway/Code 09C.RC
Andy Piszkin/Code 1831.AP
John Dolegowski/CH2M HILL/SCO
Davi Richards/CH2M HILL/CVO
Hooshang Nezafati/CH2M HILL/SCO
Natasha Raykhman/CH2M HILL/SCO
Kimo Look/CH2M HILL/SCO
Rick Marc-Aurele/CH2M HILL/SCO
Cindy Dahl/CH2M HILL/CVO
Nanci Klinger/CH2M HILL/PDX (by conference call)

Attachment

TO: John Dolegowski/SCO
Davi Richards/CVO

COPIES: Nanci Klinger/PDX
Kimo Look/SCO
Rick Marc-Aurele/SCO
Natasha Raykman/SCO
Hooshang Nezafati/SCO

FROM: Cindy Dahl/CVO

DATE: January 17, 1995

SUBJECT: El Toro OU1 ReInjection/Recharge meeting- January 19, 1995

PROJECT: SCE31981.FU.60

The following are some of the ARARs and issues I would like to include in our discussion on Thursday morning. Please let me know if you have any questions, or see problems in including these topics.

1. Key issues for reInjection at El Toro. *To be stated briefly, in order to set the framework for the discussion.*

- The treated groundwater (following VOC removal) is not wastewater
- Extraction of groundwater for VOC removal and reInjection will not degrade the aquifer, but will actually enhance groundwater quality
- Data collected and analyzed for El Toro indicates that TDS and inorganic contamination in the aquifer is "background" to El Toro, even if it has human origins

2. Water Board resolutions, precedent, or policy on similar sites.

I would like to keep this conversation tightly focused. Our team needs to share information gathered to-date, but the details can be handled in another format. We need to briefly review any precedent established by Board decisions regarding:

- ReInjection of groundwater .
- Definition of "background" groundwater quality in areas impacted by agricultural or other uses.
- Definition of "discharge" as it related to non-wastewaters introduced into aquifers or other waters of the state.
- Interpretation of the Basin Plan for remedial actions (as opposed to rulings on water uses and waste discharges)
- Definition of distinct water quality areas for reInjection (how large a variation in water quality is needed to define a separate area for reInjection?)

MEMORANDUM

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SCE31981.FU.60

3. Evaluation and Implementation Issues for Reinjection. These are items we need to discuss with the Water Board, assuming we get the green (or at least yellow) light regarding the reinjection alternative.

- What water quality limitations will be imposed for VOC removal in a reinjection scenario?
- What type of groundwater modeling will be required? Scenarios? Parameters?
- For reinjection, what restrictions will be placed on TDS concentrations (since the TDS is not uniform across the basin)?

JACOBS ENGINEERING GROUP INC.

CLEAN TRANSMITTAL/DELIVERABLE RECEIPT

CONTRACT N68711-89-D-9296

Doc. Control Number: CLE-C01-01F145-I2-0093

TO: Ms. Robin Green
Contracting Officer, Code 0232
Southwest Division
Naval Facilities Engineering Command
Contracts Department, Room 131
1220 Pacific Highway
San Diego, California 92132-5187

DATE: 03 Feb 1995
CTO#: 145
LOCATION: MCAS El Toro
TASK/WORK ELEMENT: _____

John Dolegowski
John Dolegowski/Project Manager

Bryant Wong
Ken Tomed/Resource Center Manager

DESCRIPTION: Project Note No. PN-0145-150, Contract Task Order (CTO) No. 145, Remedial Investigation/Feasibility Study, OU-1 Interim Action Feasibility Study (IAFS) Discharge Options ARARs

TYPE: Contract Deliverable CTO Deliverable Request for Change/Project Note

VERSION: Final REVISION # N/A
(e.g., Draft, Draft Final, Final, etc.)

ADMIN RECORD Yes No Category Confidential
(PJM to identify)

NEGOTIATED DELIVERY DATE: _____ ACTUAL DELIVERY DATE: _____

Number of Copies Submitted to Navy: _____

Copies To:	<u>J. Rogers - Code 18C1 w/attach</u>	<u>Mike Bitner - CH2M HILL/ABQ w/attach</u>
	<u>A. Piszkin - Code 1831.AP w/attach</u>	<u>File - PMO w/attach</u>
	<u>V. Parpiani - MCAS El Toro w/attach</u>	<u>File - CH2M HILL w/attach</u>
	<u>K. Tomeo - CH2M HILL w/o attach</u>	
	<u>M. Huddleston - CH2M HILL w/o attach</u>	

Delivered To: Contracting Officer RPM/EIC

Name: _____

Date/Time Received

7 FEB 95 12 28

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CODE 18C