

---

**SUMMARY OF THE SITE CLOSURE ROUNDTABLE DISCUSSION**  
**U.S. EPA REGION 9 HEADQUARTERS, OCTOBER 8, 1998**  
**SAN FRANCISCO, CALIFORNIA**

SVE shutoff criteria were presented by the U. S. EPA and RWQCB, Central Valley Region. The criteria advocated by each had many common elements and one significant difference. The elements shared by the EPA and Water Board were:

- Adequate site characterization to support SVE engineering design.
- Appropriate engineering design to match site conditions. The EPA stated that soil gas velocity-based designs were appropriate, and vacuum-based radius of influence designs were not. EPA's termed the design "rate-limited transport", which refers to the rate of contaminant transport in the vapor phase.
- Appropriate operation and maintenance plan that can be used to optimize system operation. SVE operation should include running the system until asymptotic conditions are reached; evaluating and addressing any rebound effect; and optimizing the system during operation, as needed.
- Appropriate monitoring. The EPA and Water Board did not consider monitoring of extraction wells alone to be appropriate. Vadose monitoring points at distances away from the extraction wells should be included. These data should be used to optimize the system's performance.
- The need to perform a technical and economic feasibility analysis to evaluate the appropriateness of shut-down if cleanup standards are not met. Normally the technical and economic feasibility analysis is done in the FS, but SVE system data are needed for its completion in the case of vapor extraction. The Water Board recommended that an estimate of the mass remaining in the vadose zone be completed to estimate the mass flux to groundwater.

Significant differences in opinion and policy are evident regarding the actual cleanup standard, although both agencies agree that the cleanup should be based on soil gas levels.

- The EPA favors a narrative cleanup standard that may include numerical goals. The EPA recommended that mass flux modeling be completed to help evaluate the potential for degradation of groundwater due to residual contaminants in soil. The modeling should not be coupled to a groundwater model due to uncertainties inherent in modeling, but should be used as a tool for decision makers. The EPA emphasized good judgement and good science as the means for closure.
- The Water Board stated that the cleanup goal should be to obtain background water quality with no VOCs in the leachate to groundwater. Recognizing that this was not possible, a numerical cleanup standard was recommended by the Water Board. This cleanup standard is equivalent to the basin water quality objective or MCL, which reflects contaminant concentrations in the leachate that enters groundwater. A simple analytical model using

Henry's Law would be used to calculate the concentration of VOCs in leachate using soil gas analytical data.

It appears that there may be no need to establish a numerical standard for the vadose zone if the final ROD considers the soil and groundwater as one system. By considering SVE as an enhancement of the groundwater remediation system, numerical standards would be appropriate for groundwater and goals would be acceptable for soil.

At MCAS El Toro, the Site 24 vadose zone proposed plan used numerical cleanup goals for soil gas. Soil gas threshold concentrations were included as remedial action objectives in the Interim ROD. It appears that we can go forward with this rationale and not be hampered by the Water Board's numerical cleanup standards for soil gas. However, numerical cleanup goals for groundwater would still apply.



BECHTEL NATIONAL INC.

CLEAN II TRANSMITTAL/DELIVERABLE RECEIPT

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

Document Control No.: CTO-0162/0075

File Code: 0208

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: October 13, 1998
CTO #: 0162
LOCATION: MCAS El Toro

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

DESCRIPTION: Summary of the Site Closure Roundtable Discussion, U.S. EPA Region 9
Headquarters, October 8, 1998, San Francisco, CA

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

VERSION: NA REVISION #: NA

ADMIN RECORD: Yes X No Category Confidential

SCHEDULED DELIVERY DATE: 10/13/98 ACTUAL DELIVERY DATE: 10/13/98

NUMBER OF COPIES SUBMITTED: 10/4C/4E

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

SWDIV:
G. Steinway, Code 56MC.GS (O)
L. Holloway, Code 03EN.LH (1C/1E)
D. DeMars, 56MC.DBD (1C/1E)
L. Hornecker, Code 56MC.LH (1C/1E)
A. Piszkin, Code 56MC.AP (1C/1E)

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

OTHER (Distributed by Bechtel):
D. Crawley, El Toro (1C/1E)
J. Joyce, El Toro (BEC) (1C/1E)

O = Original Transmittal Sheet
C = Copy Transmittal Sheet
E = Enclosure

Date/Time Received