

Public Information Materials

5/26/04

Restoration Advisory Board Meeting 69th Meeting Held at Irvine City Hall Irvine, CA

M60050_003091
MCAS EL TORO
SSIC NO. 5090.3.A

Materials/Handouts Include:

- *RAB Meeting Agenda/Public Notice – 5/26/04 RAB meeting – 69th meeting.
- *Meeting Minutes from the March 31, 2004 RAB meeting – 68th Meeting.
- MCAS El Toro RAB Meeting Schedule, Full RAB and RAB Subcommittee (July 2004-July 2005).
- MCAS El Toro RAB Mission Statement and Operating Procedures.
- RAB Membership Application – MCAS El Toro RAB.
- MCAS El Toro RAB Membership Roster.
- MCAS El Toro Installation Restoration Program – Mailing List Coupon.
- MCAS El Toro – BRAC Cleanup Team Members and Key Project Representatives and Administrative Record File and Information Repository Locations and Contacts.
- Internet Access – Environmental Web Sites.
- Internet Access – U.S. EPA Federal Register Environmental Documents – Endangered and Threatened Wildlife and Plants Proposed Designation of Critical Habitat for the Riverside Fairy Shrimp.
- One-Page Glossary of Technical Terms.
- Draft Revised Proposed RAB Rule, January 2004, from the Department of Defense.
- Department of Navy – Policy for Conducting Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Statutory Five-Year Reviews, November 2001.
- Department of Defense – Institutional Controls, Spring 1997.
- Department of Defense – A Guide to Establishing Institutional Controls at Closing Military Installations, February 1998.
- Department of Defense – Memorandum - Responsibility for Additional Environmental Cleanup after Transfer of Real Property, 1997.
- Department of Defense – Management Guidance for the Defense Environmental Restoration Program, September 2001 & DoD Guidance on Improving Public Involvement in Environmental Cleanup at Closing Bases, December 1997.
- U.S. EPA Fact Sheet – A Citizen's Guide to Natural Attenuation, October 1996.
- Brochure – Commonly Asked Questions Regarding the Use of Natural Attenuation for Chlorinated Solvent Spills at Federal Facilities (Brochure developed through a partnership of U.S. EPA, Air Force, Army, Navy, and Coast Guard).
- U.S. EPA Fact Sheet – Checking Up on Superfund Sites: The Five-Year Review, June 2001.
- U.S. EPA Fact Sheet – Perchlorate Update, March 2002.
- Environmental Data Quality Handout – Response to RAB Inquiry, September 2003.
- Irvine Ranch Water District (IRWD) – PowerPoint Presentation to the MCAS El Toro RAB at the 5/26/04 Meeting – Irvine Desalter Project Update, presented by Steve Malloy, Senior Project Engineer, IRWD.
- *Presentation* - MCAS El Toro RAB Meeting, May 26, 2004, RCRA Corrective Action Complete Determination & RCRA Facility Boundary Modification for Marine Corps Air Station El Toro, presented by Tayseer Mahmoud, Project Manager, Dept. of Toxic Substances Control.
- *Presentation* - MCAS El Toro RAB Meeting, May 26, 2004, IRP Site 1 Perchlorate Investigation Update, presented by Gordon Brown, SWDIV Remedial Project Manager, and Crispin Wanyoike, Earth Tech, Inc..
- Public Notice – MCAS El Toro, Finding of Suitability for Transfer (FOST) and Proposed RCRA Corrective Action Complete Determination and RCRA Facility Boundary Modification.
- Notice of Proposed RCRA Corrective Action Complete Determination and RCRA Facility Boundary Modification Former MCAS El Toro, Orange County California, prepared by Dept. of Toxic Substances Control.

* Mailed to all RAB meeting mailer recipients on 5/20/04.

Agency Comments and Letters - U.S. Environmental Protection Agency (U.S. EPA)

- U.S. EPA, Concurrence – Federal Facility Agreement Schedule Extension Request, Operable Unit (OU-1), Installation Restoration Program (IRP) Sites 18 and 24, Remedial Design Documents, Former Marine Corps Air Station, El Toro, dated April 16, 2004 - To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Nicole Moutoux, Project Manager, Federal Facilities Cleanup Branch, U.S. EPA (letter dated April 22, 2004).
- U.S. EPA, Extension Request Concurrence – Extension Request to Federal Facility Agreement Schedule for OU-2B, Landfill Sites 2 and 17, Former MCAS El Toro, dated April 26, 2004 - To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Nicole Moutoux, Project Manager, Federal Facilities Cleanup Branch, U.S. EPA (letter dated May 4, 2004).
- U.S. EPA, Comments – Draft Site Assessment Report, IRP Site 16, Former Marine Corps Air Station, El Toro, dated March 30, 2004 - To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Nicole Moutoux, Project Manager, Federal Facilities Cleanup Branch, U.S. EPA (letter dated May 13, 2004).
- U.S. EPA, Comments – EPA Comments on Draft Sampling and Field Analysis Plan, Amendment No. 1, Phase II Remedial Investigation IRP Site 1, Former Marine Corps Air Station, El Toro, dated March 2004 - To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Nicole Moutoux, Project Manager, Federal Facilities Cleanup Branch, U.S. EPA (letter dated May 19, 2004).

Agency Comments and Letters – California Environmental Protection Agency (Cal-EPA)

- Cal-EPA, Department of Toxic Substances Control (DTSC) – Approval of Closure Report for Former Pesticide Storage Area MSX P1, Unit 1, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated March 30, 2004).
- Cal-EPA, DTSC – Approval of Summary Report for Temporary Accumulation Area (TAA) 462, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated April 6, 2004).
- Cal-EPA, DTSC – Approval of Summary Report for Temporary Accumulation Area (TAA) 744, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated April 7, 2004).
- Cal-EPA, DTSC – Comments on Site Assessment Report for IRP Site 16, Crash Crew Pit Number 2, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated May 14, 2004).
- Cal-EPA, DTSC – Concurrence with No Further Action – Draft Final Technical Memorandum Report for APHO 46 and MSC R2, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated May 17, 2004).
- Cal-EPA, DTSC – Comments on Proposed Sampling Strategy for the Temporary Accumulation Area (TAA) Site 7, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated May 21, 2004).
- Cal-EPA, DTSC – Comments on Draft Final Sampling and Analysis Plan, Amendment No. 1, Phase II Remedial Investigation IRP Site 1, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated May 24, 2004).

California Regional Water Quality Control Board (RWQCB), Santa Ana Region

- No Items Submitted

RAB Subcommittee Handouts and Letters (generally provided by Marcia Rudolph, MCAS El Toro RAB Subcommittee Chair)

- No Items Submitted

Additional Information Submitted – 3/31/04 RAB Meeting

- No Items Submitted

**MCAS El Toro
Restoration Advisory Board**

*Irvine City Hall
Conference and Training Center
One Civic Center Plaza, Irvine*

**May 26, 2004
6:30 - 9:00 p.m.
69th RAB Meeting**

**RAB Subcommittee Meeting
5:00-6:00 p.m., Room L-104**

AGENDA

RAB members that are unable to attend please call either Andy Piszkin, Marine Corps/Navy RAB Co-Chair at (949) 726-5398 or (619) 532-0784 -or- Bob Woodings, RAB Community Co-Chair at (949) 461-3481.

Question and Answer (Q&A) Ground Rules

- Q&A follows individual presentations; time designated for presentations includes Q&A time.
- "Open Q&A" session (environmental topics) is at the end of the New Business segment.
- After adjournment, Marine Corps/Navy representatives are available to answer more questions.

Welcome/Introductions/Agenda Review (6:30-6:40)

Andy Piszkin
Marine Corps/Navy RAB Co-Chair

Old Business (6:40-7:15)

Approval of 3/31/04 Minutes (6:40-6:45)

Bob Woodings
RAB Community Co-Chair

Announcements/Review of Action Items (6:45-7:00)
- Irvine Desalter Project Update & Status of Well ET-2

Andy Piszkin & Bob Woodings

Subcommittee Meeting Report (7:00-7:10)

Marcia Rudolph
RAB Subcommittee Chair

Follow-up Announcements/Responses/Q&A (7:10-7:25)

Andy Piszkin

New Business (7:25-8:50)

Regulatory Agency Comment Update (7:25-7:40)
*Federal and State Regulatory Oversight of Environmental
Restoration and Cleanup at MCAS El Toro*

Federal Rep
Nicole Moutoux
U.S. EPA

State Rep
Tayseer Mahmoud
Cal/EPA DTSC

- Proposed Resource Conservation Recovery Act (RCRA)
Corrective Action Complete Determination and RCRA
Facility Boundary Modification – (7:40-8:05)
 - Cal/EPA DTSC intends to determine that all necessary contamination cleanup at certain MCAS El Toro RCRA Sites is complete; public comment period runs through June 17, 2004.

Tayseer Mahmoud

BREAK – 10 minutes

- Installation Restoration Program (IRP) Explosive Ordnance
Disposal Range (Site 1) Remedial Investigation Activities
and Schedule – (8:15-8:40)
 - Update on work planned for the site as well as schedules.

Gordon Brown
Navy/SWDIV

Crispin Wanyoike
Earth Tech, Inc.

Open Q&A (Environmental Topics) (8:40-8:50)

Andy Piszkin

Meeting Summary & Closing (8:50-9:00)

Andy Piszkin & Bob Woodings

Meeting Evaluation & Topic Suggestions for Future Meetings

P U B L I C N O T I C E

MARINE CORPS AIR STATION EL TORO

Restoration Advisory Board Meeting

Restoration Advisory Board (RAB) meetings provide community members and the general public a first-hand opportunity to learn more about the environmental cleanup of former MCAS El Toro. Project managers from the Navy and the regulatory agencies make presentations and are available to answer your questions. Since 1994, concerned citizens and government representatives have been regularly meeting to discuss the environmental cleanup program. Your input is encouraged and appreciated.

69th Meeting

Wednesday, May 26, 2004 – 6:30-9:00 p.m.

**Irvine City Hall, Conference and Training Center
One Civic Center Plaza, Irvine**

This RAB/Public meeting will feature the following presentations specific to MCAS El Toro:

- **Proposed Resource Conservation Recovery Act (RCRA) Corrective Action Complete Determination and RCRA Facility Boundary Modification**
Cal/EPA Dept. of Toxic Substances Control intends to determine that all necessary contamination cleanup at certain MCAS El Toro RCRA Sites is complete; public comment period runs through June 17, 2004.
- **Installation Restoration Program (IRP) Explosive Ordnance Disposal Range (Site 1) Ongoing Remedial Investigation of Soils and Groundwater**
Update on various work planned for the site as well as schedules.
- **Update on Locating an off-Station Extraction Well in Irvine to Address Cleanup of Solvent-Contaminated Groundwater**
Status of groundwater extraction well ET-2.

For more information about Environmental Programs at MCAS El Toro, please contact:

Base Realignment and Closure, Mr. Andy Piszkin, BRAC Environmental Coordinator,
7040 Trabuco Road, Irvine, CA 92618 – (949) 726-5398 or (619) 532-0784

MARINE CORPS AIR STATION EL TORO
RESTORATION ADVISORY BOARD MEETING

March 31, 2004

MEETING MINUTES

The 68th Restoration Advisory Board (RAB) meeting for Marine Corps Air Station (MCAS) El Toro was held Wednesday, March 31, 2004 at the Irvine City Hall. The meeting began at 6:38 p.m. These minutes summarize the discussions and presentations from the RAB meeting.

WELCOME, INTRODUCTIONS, AGENDA REVIEW

Mr. Andy Piszkin, BRAC Environmental Coordinator (BEC) for MCAS El Toro and Marine Corps RAB Co-Chair, asked Ms. Marcia Rudolph, RAB Subcommittee Chair, to lead the Pledge of Allegiance. He then asked for self-introductions and reviewed the agenda for tonight's meeting. He stated that the RAB meetings provide information on the restoration and cleanup of MCAS El Toro, but are not a forum to discuss reuse issues for the station.

Mr. Piszkin introduced Mr. Tayseer Mahmoud as the new California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC), Project Manager for MCAS El Toro. He stated that Mr. Mahmoud had served as the DTSC Project Manager for MCAS El Toro in the past so he is quite familiar with both the station's Installation Restoration Program (IRP) and Compliance Program. He also welcomed back Mr. Dean Gould, MCAS El Toro Base Realignment and Closure Manager, who served as the previous BEC for MCAS El Toro.

Review and Approval of the January 28, 2004 RAB Meeting Minutes

Mr. Bob Woodings, RAB Community Co-Chair, asked for any changes or comments prior to approval of the January 28, 2004 RAB meeting minutes. The minutes were approved without amendment. Mr. Woodings and Mr. Piszkin both expressed appreciation for the efforts made by staff from Bechtel, the Navy's community relations contractor, for producing the minutes.

Announcements

- Mr. Piszkin explained that today is a state holiday, so it is much appreciated that Mr. Mahmoud is attending the MCAS El Toro RAB meeting on his day off.
- Mr. Piszkin stated that explanations of some terms that might not have been heard or defined previously have been added to the MCAS El Toro January 28, 2004 RAB meeting minutes. Mr. Bob Coleman, Bechtel National, stated for example, on page 5 of the January 28, 2004 RAB meeting minutes, first bullet, sixth line, a definition of the vadose zone has been added. He added that this practice has been implemented based on requests during community interviews for updating the MCAS El Toro Community Relations Plan.

- Mr. Piszkin explained that, based on further input from community interviews, the MCAS El Toro public notices announcing RAB meetings in the newspapers has been reformatted to include a concise description of what will be discussed for each RAB agenda topic, rather than just the title. These descriptions were also added to the agenda developed for tonight's RAB meeting.
- Mr. Piszkin stated that there is a handout on the information table that has the updated contact information for the Navy, the state and federal regulatory agency representatives, and the RAB Community Co-Chair and Subcommittee Chair. It also contains information on the Administrative Record and the Information Repository.
- Mr. Piszkin stated that the Draft Proposed RAB Rule has been sent out to RABs across the United States for review and comment before it is submitted for formal 60-day review in the Federal Register. The Draft Proposed RAB Rule was forwarded to the MCAS El Toro RAB Community Co-Chair and the Subcommittee Chair. Copies of the Draft Proposed RAB Rule are available on the information table for anyone who is interested.
- Mr. Piszkin said that the Irvine Ranch Water District (IRWD) has developed a handout with updated information pertaining to the Irvine Desalter Project and groundwater cleanup of Operable Units 1 and 2A. It is available on the information table this evening. One key issue covered is the change in plans for locating well ET-2 for extracting groundwater. Originally, the location for installation was set for the Woodbridge Village area in Irvine but this location has been abandoned, so IRWD is currently exploring alternative locations for well ET-2. IRWD is currently working on the 90 percent design package for the extraction and treatment system and has conducted pump tests.
- Mr. Piszkin explained that the State of California has set a health goal for perchlorate at 6 parts per billion (ppb) that was established on March 11, 2004. This is a health advisory, not a maximum contaminant level or MCL for drinking water standards. (An MCL is the maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs are enforceable standards.) RAB meeting attendees can be read up on this development at the California Department of Health Services website: www.dhs.ca.gov
- Mr. Piszkin stated that the Navy has been finishing up the Radiological Release Report. Most recently, radiological sampling of Bee Canyon Wash has been completed. Verification of the sampling results is a little behind and was not ready for presentation at this evening's meeting. He said he would e-mail the Bee Canyon Wash results to the RAB Community Co-Chair and the Subcommittee Chair when they are available.
- Mr. Piszkin explained that the Navy schedule for the Updated Community Relations Plan is to issue the draft plan to the regulatory agencies for review in June 2004.
- Mr. Piszkin provided an overview update of the recent, ongoing environmental restoration activities at MCAS El Toro Installation Restoration Program sites:
 - Site 1, Explosives Ordnance Disposal (EOD) Range – A presentation will be made as part of tonight's meeting. A draft sampling and analysis plan for ecological risk for the endangered Riverside fairy shrimp at a pond area at the site is being developed. Also, a work plan for a treatability study for perchlorate in groundwater at Site 1 is being developed.

- Sites 2 and 17, Magazine Road and Communication Station Landfills – Work is proceeding on the remedial design of the landfill caps at these inactive landfills.
- Sites 3 and 5, Original and Perimeter Road Landfills – Soil gas samples and data have been collected from the areas at the landfill boundaries and are undergoing evaluation.
- Sites 8 and 12, Defense Reutilization and Marketing Office (DRMO) and Sludge Drying Beds – An interim soil removal action is being planned, and it will consist of a simple excavation and hauling away of contaminated soil. Planning will be completed when the radiological release samples are completed and available. This will allow for a coordinated effort to do the interim removal actions and the removal action for Site 11 (see next bullet) all at the same time.
- Site 11, Transformer Storage Area – There is a signed Record of Decision for this site. The work plan for the remedial design for the final action for Site 11 is expected to be issued in April 2004. The removal action will consist of excavation and hauling away contaminated soil. This will be done in conjunction with the interim action for Sites 8 and 12. Disposal of soil from all three sites will be done at a state-permitted facility.
- Site 16, Crash Crew Pit No. 2 (Fire Fighting Pit) – The Record of Decision (ROD) was signed in June 2003 for Monitored Natural Attenuation to address contaminated groundwater. This summer a couple more monitoring wells will be installed.
- Sites 18 and 24, VOC Plume and Source Area – For Site 18 groundwater extraction and treatment, IRWD is working on the 90 percent design and the deadline for that is June 2004. The 90 Percent Design Submittal for Site 24 groundwater extraction and treatment, scheduled for submittal in April 2004, may be delayed one or two months.

RAB Subcommittee Meeting Report, Ms. Marcia Rudolph, RAB Subcommittee Chair

Ms. Rudolph welcomed Mr. Gould back to the MCAS El Toro RAB. She thanked the U.S. EPA and DTSC representatives for attending the RAB Subcommittee meeting and providing information. She then reviewed the key points discussed in the RAB Subcommittee meeting:

- The situation regarding the potential location of well ET-2 in the Woodbridge Village was discussed.
- In regard to perchlorate, the RAB Subcommittee is interested to know what DTSC's new advisory level will mean for the investigation and remediation issues involving perchlorate contamination in groundwater associated with Site 1.
- In reference to Senator Kerry's comments published in the newspaper about using the military housing at MCAS El Toro, she asked for information on why that is not a good idea.
- The RAB Subcommittee discussed issues regarding risks that are not handled under CERCLA. She said that Mr. Ray Ouelette, RAB Subcommittee member, has located some of the late Dr. Charles Bennett's notes on Sites 25 and the washes.
- The RAB Subcommittee discussed the possibility of a joint effort between the Navy and the City to develop a map showing in a grid location of contaminants so that if streets or utilities are installed, there would be ready access to information on that specific property

to determine if there is any risk from contaminants in that area. She said that the RAB Subcommittee understands that those who would be handling infrastructure would be certified in case they came across any contamination; however, it would be advantageous to have a system that could forewarn of those possibilities.

- She stated that there is concern that the Administrative Record is not as complete as it should be. Also, concern was expressed to ensure that no one is walking out the door of the on-station BRAC office with Administrative Record documents and that an inventory of the records would be appreciated.
- The RAB Subcommittee is looking forward to the release of the Radiological Release Report documents.
- She stated that a Lake Forest city council member, who is now a member of the County's Waste Management Board, brought up difficulties that were encountered with the debris removal from MCAS Tustin and the overload this has created at the municipal landfill. This has made it difficult for the regular waste haulers to have access to the municipal landfill. She acknowledged that in regard to MCAS El Toro, this may soon be a Waste Management Board or City of Irvine or Navy issue as the station gets closer to significant excavation activities and there is concern such that some of the difficulties associated with MCAS Tustin could be avoided.
- Ms. Rudolph thanked Ms. Nicole Moutoux, U.S. EPA, for bringing up issues associated with Sites 18 and 24, and the RAB Subcommittee is very impressed with the letter written by the agency. Specifically, she referred to the issues of having soil vapor extraction as a supplement to the shallow groundwater unit cleanup activities to ensure that there are no rebound effects. The RAB Subcommittee requested that the Navy address this tonight or at the next RAB meeting. The RAB Subcommittee concurs with Comment No. 3 in Ms. Moutoux's letter – given that the site boundary wells will be started up before the on-base wells, the Navy should consider placing a check valve in the system between the sets of wells to avoid pressurizing the system upstream of the base boundary.

Navy Responses to Subcommittee Comments

Mr. Piszkin stated that the Navy and IRWD are discussing installation issues pertaining to well ET-2, which is to be installed by IRWD. Mr. Steve Malloy, IRWD Engineer and RAB member, will be attending the BRAC Cleanup Team (BCT) meeting tomorrow to present options for well ET-2 and for groundwater extraction near the toe of the plume that is off-station and other system components.

Mr. Piszkin said that regarding the perchlorate health goal and what this means for MCAS El Toro, the Navy continues to monitor for perchlorate. The only concern with perchlorate is at Site 1 and there is some internal debate on whether some low perchlorate concentrations at the Site 2 landfill are migrating from Site 1. Other than that, there is no perchlorate concern for the rest of the groundwater at MCAS El Toro. Sampling results from both on-station and off-station are very consistent – perchlorate detection is spotty and without pattern.

Regarding Sen. Kerry's housing comment; Mr. Piszkin said this is not an environmental concern. If this is of interest, he suggested contacting your congressman regarding the housing issue. Ms. Mary

Aileen Matheis, RAB member and IRWD Board member, said that she asked the Mayor of Irvine about this, and he indicated that Sen. Kerry is not in a position to make decisions on that issue. However, she was also led to understand that some facilities will be reused, but other residential areas were not discussed. Maj. Jim Kitka, MCAS El Toro BRAC Office, stated that from the Marine Corps Commandant down, there have been concerns about housing for Marines, and having Marines driving 50 miles from El Toro to Camp Pendleton is not feasible and the Marines want this issue of reusing El Toro for housing to go away, it is just a political thing.

Mr. Piszkin stated that non-CERCLA contamination, specifically petroleum, does not have a risk value or orientation associated with it. Certain components of petroleum, like benzene does have a risk number; but petroleum, as an analyte, does not. Otherwise, he was not sure how to further respond to that comment. As far as mapping out where contaminants remain in place, any property that is found suitable for transfer may still have waste or residual from a release in place, however, it has been found by the Navy, U.S. EPA, and DTSC that it does not warrant any action and does not pose an unacceptable human health risk. Therefore, it would not be feasible to map out areas where constituents are left in place but that could pose problems because it would indicate that there is a reason to map them out. When No Further Action letters or Records of Decision (RODs) are signed, that indicates everything required has been done. He explained that categories are assigned for the condition of property, and that Category 3 is property where there has been a release, but it is below levels requiring action (remediation or cleanup) and that property is transferable. Ms. Rudolph stated that the comment was specific to placement of infrastructure such as streets and utilities that would be installed substantially below the surface level. Mr. Piszkin stated that he would research this to see if there is any specific policy regarding that aspect. Also, trying to identify every single point at the station where there may have been a single hit of some contaminant would be difficult to map out.

In regard to the Administrative Record File, Mr. Piszkin explained that the most complete set of documents for MCAS El Toro is in San Diego at the main Administrative Record and most of that is in an electronic format. The duplicate Administrative Record File at MCAS El Toro has about 99 percent of the records, but in hard copy, and it is convenient to have it accessible to the public at Building 83. He added that Ms. Marge Flesch oversees the Administrative Record MCAS El Toro and is especially vigilant in ensuring that no one leaves with original documents. He stated that that same building is where developers may go in and examine documents for their due diligence and that may be a concern, but he can address that issue directly with the developers.

He stated that the field sampling for the Radiological Release Report is being completed this week, so it will probably take 2 to 3 months before the first report is submitted. Mr. Gordon Brown, Navy Remedial Project Manager, added that a decision has been made to breakup the Radiological Release Report into incremental reports to handle sites separately. The first report is due out at the end of May 2004, and that it would most likely cover Sites 8, 11 and 12. Mr. Piszkin added that it might also include Site 25 results.

Mr. Brown stated that in the course of the Radiological Release survey that's being conducted, the Navy has received weekly reports from Weston Solutions, the Navy's radiological survey contractor. In terms of any problems encountered, if there were any elevated readings from the samples, they would have alerted us to that during the reporting process. So far, there has been no notification of

elevated readings, so hopefully that is a good sign that there have not been any hits of significance during the survey process.

Mr. Piszkin stated regarding comments that debris from the City of Tustin's redevelopment of MCAS Tustin is overburdening the local landfills, call Mr. Steve Sharp, Environmental Health Division, Orange County Health Care Agency. (Mr. Sharp is a RAB member and the agency he works for oversees municipal landfills throughout the County. His phone number is 714-667-3623.) Ms. Rudolph stated that this is a Navy issue since the Navy is taking debris offsite as part of remedial activities.

Mr. Piszkin said he concurs with U.S. EPA's comments on Site 24 pertaining to soil vapor extraction. He added that all the vent tubes (approximately 70) that were used to cleanup the soil (vadose zone) are still available for soil vapor extraction. The Navy and all the regulatory agencies have agreed to keep these available for soil gas removal during groundwater cleanup, if this is warranted. He added that the Navy may not use all of those, most likely only the ones that are above the highest concentrations in groundwater. Also, the Navy would consider the check valve recommended by Ms. Moutoux.

Discussion

Dr. Michael Brown, RAB attendee and City of Irvine consultant, said that given the Navy is not able to use the preferred location for well ET-2, what is the impact of moving to a secondary location? Mr. Piszkin responded that it depends on the secondary location. If a secondary location still allows the Navy to meet its remedial objectives, which are to contain or capture the contaminant plume, then it will work fine. Dr. Brown asked what would be done if an alternative location is not found. Mr. Piszkin replied that the Navy would meet with U.S. EPA and DTSC and discuss how to find a suitable location in the technically required area. He added that the Navy does have a good groundwater modeling package that will help IRWD look at possible alternative well locations. If it does appear that the well would have to be located in a non-private area that locations would most likely be on city or public land.

NEW BUSINESS

◆ Regulatory Agency Comment Update

Nicole Moutoux, Project Manager, U.S. Environmental Protection Agency (U.S. EPA) Region IX

Ms. Moutoux stated that U.S. EPA has a few letters out on the information table covering review of a three documents. The first covered the Site Investigation for Anomaly Area 3. The key comment states that there is not enough information to support the recommendation for No Further Action and that more fieldwork is needed to obtain more information to determine the appropriate action at that site. That action could possibly be capping or a determination of No Further Action.

The second letter presented U.S. EPA comments on the 60 Percent Design Submittal for the Site 18 and Site 24 groundwater remedy. There are two primary concerns. The first involves finalizing how groundwater from the shallow groundwater unit will be treated and disposed of. The second is related to the siting of principle aquifer well ET-2.

The third letter also focused on the 60% Design Submittal and Pre-Design Investigation Technical Memorandum for the shallow groundwater unit remedy. The primary concern is that the Navy should not discount the use of soil vapor extraction in the future to enhance groundwater cleanup. She stated that the Navy's technical memorandum suggested that soil vapor extraction is not going to help the groundwater cleanup and U.E. EPA felt it is too early to make that decision. She added that most likely there will be continuing soil vapor extraction conducted but mostly in locations over the highest groundwater concentrations. As the Navy moves forward with groundwater cleanup, the BCT will have to evaluate what is occurring in the vadose zone. The other key comment called for further discussion of performance monitoring to determine how to optimize the system and figure out as the system is operating, which wells are operating to remove the most contamination. Additionally, a more detailed discussion needs to be included in the 90 percent design.

Ms. Moutoux mentioned the locating of well ET-2 which will be discussed at the BCT meeting tomorrow. She stated that she agrees that the IRWD has a really good groundwater model with a lot of data that will help determine what the options are for finding another suitable well location. She added that in regard to the 60 percent design, IRWD has had some problems with how TCE will be treated in the reverse osmosis system. IRWD will need to finalize how they are going to treat the TCE and dispose of the treated water while complying with regulations and agreements reached.

Ms. Moutoux said that other key items the BCT is working on are the Finding of Suitability to Transfer (FOST) and the Finding of Suitability to Lease (FOSL). The larger issues have to do with making sure there are adequate buffer zones around the landfills. She credited and thanked DTSC, especially Jennifer Rich, for her incredible and comprehensive review of all the details and inconsistencies. One of the other big tasks for reviewers is to make sure the FOST and FOSL are looked at in tandem since they are so connected. She stated that there is going to be a two-day meeting in mid-April to specifically go over all the comments that have been made and incorporated into the document to make sure that everything that is expected to be in the FOST and FOSL is there.

Mr. Greg Hurley, RAB member, asked if the two-day meeting would be a BCT meeting or just an internal meeting with U.S. EPA. Ms. Moutoux explained that the Navy is incorporating all the changes that were suggested and highlight those changes, so U.S. EPA, DTSC and RWQCB will sit down and painstakingly review everything to ensure that all comments are incorporated as recommended and agreed upon. Mr. Hurley asked if that process of review would go all the way back to the original comments on the FOST and FOSL. Ms. Moutoux replied that the FOST and FOSL have changed a lot since the initial review, but that if any of the original comments are still applicable, then those will be reviewed as well.

Dr. Brown asked if U.S. EPA has a process in place for reviewing requests to disturb soil post transfer. Ms. Moutoux responded that those issues still need to be worked out as a team. At the last BCT meeting there was a discussion of the leased areas and the process that would be followed, but thus far that has only been discussed in general terms and a formal process has not yet been established.

Tayseer Mahmoud, Project Manager, Cal/EPA Dept. of Toxic Substances Control (DTSC)

Mr. Mahmoud stated that it is good to be back with the MCAS El Toro RAB. He explained that DTSC has reviewed several documents over the last two months. The Draft Tech Memo for Site 24

Remedial Design – DTSC had similar comments to U.S. EPA regarding the soil vapor extraction system. DTSC also asked the Navy to draw the shape of the plume in three dimensions to capture contours and optimize the treatment system.

He said DTSC has also reviewed no further action documents for several areas of concern (AOCs) including Oil/Water Separator 845. He said he originally provided comments on this document in October 2003 when he was helping Rafat Abbasi, the previous DTSC project manager. The Navy had tested for total petroleum hydrocarbons (TPH) and VOCs, and DTSC commented that before No Further Action could be accepted, the Navy would need to do sample for metals. The Navy went back and sampled for metals and results showed metals were below action levels, so DTSC accepted closure for that AOC. He said he also reviewed the closure report for pesticide storage area MSC P-1, Unit 1. DTSC concurred on the closure report for that AOC. The Navy had collected 60 samples from the area and the risk calculations for cancer and non-cancer risks were lower than those that are acceptable for residential risk factors, so DTSC concurred with the Navy's recommendation for closure.

He said that Cal/EPA's Department of Health Services (DHS) reviewed the Radiological Survey and DTSC forwarded DHS comments on calibrations, efficiency and other information to the Navy and the BCT. DTSC also reviewed Aerial Photography Anomalies - APHO 93, 97 and 103 and concurred with No Further Action on these AOCs. DTSC also reviewed the FOST and FOSL response to comments and are working with the U.S. EPA and RWQCB to finalize the FOST and FOSL.

DTSC will make a determination on RCRA corrective action because MCAS El Toro was issued a RCRA permit that expired in August 2003. DTSC will publish a public notice for determination of RCRA corrective action completion. Once the public comment period for that is complete, DTSC will redraw the boundary of the RCRA corrective action. However, National Priority List status and boundary for MCAS El Toro will stay the same, and the RCRA corrective action boundary will stay the same except for those areas that have received FOST determination.

Mr. Woodings asked if Mr. Mahmoud would be attending the two-day meeting to ensure that all comments on the FOST and FOSL are adequately addressed and incorporated. Mr. Mahmoud indicated that he would be attending and Ms. Jennifer Rich may also attend the meeting.

Mr. Piszkin explained that Mr. Mahmoud's comments reminded him that he needs to provide the RAB with a Compliance Program Update. This update is summarized below.

- Underground Storage Tank (UST) 75D – This heating oil tank that was removed in March 2004. Work is progressing on the closure documentation for various former temporary accumulation areas and this UST.
- Plans are in development for sampling at former jet fueling stations on the runway aprons and various petroleum corrective action program sites.
- A portable soil vapor extraction treatment system has been mobilized at former UST sites 390A and B, former gasoline dispensing facilities. Soil vapor extraction operations began on March 29, 2004.
- Groundwater extraction activities have been temporarily suspended at UST Group 651, a former gasoline dispensing facility. This will allow for implementation of refinements to the system for longer term operations. Approx. 4,200 gallons have been extracted and a short

status report on the initial extraction activities will be submitted to the RWQCB in April 2004.

Mr. Piszkin said that a lot of progress has been made on the Compliance Program. He provided the following details that are current as of March 29, 2004:

- UST sites - 365 of 407 have achieved No Further Action status.
- Aboveground storage tanks (ASTs) – 36 of 39 have achieved No Further Action status.
- Oil/Water separators – 48 of 56 have achieved No Further Action status.
- APHOs, 76 out of 124 have achieved No Further Action status.
- Solid Waste Management Units (SWMUs) and Temporary Accumulation Areas (TAAs) – 110 of 157 have achieved No Further Action status. This includes three that are pending the Radiological Survey, but are expected to reach No Further Action based on the initial results.
- Potential Release Locations (PRLs) - 34 of 76 have been closed.
- PCB sites - all 124 PCB sites have been closed.
- IRP sites - 13 of 24 have achieved No Further Action status.

He summed up that there are over 1,000 Locations of Concern (LOCs) in the Compliance Program and over 800 have reached No Further Action status. Also, there are about four dozen reports undergoing various reviews by the regulatory agencies.

◆ **Site 1 Update on Site 1 Explosives Ordnance Disposal (EOD) Range, Gordon Brown, Remedial Project Manager, SWDIV and Crispin Wanvoike, Earth Tech, Inc.**

General Update – Current Site 1 Activities

Mr. Gordon Brown provided a general overview of Site 1. Last year the Navy proposed a plan to do an emergency removal action to address perchlorate contamination in groundwater at Site 1. The Navy still has concerns because there is localized contamination there, and there is a potential for perchlorate to migrate beyond the Site 1 boundary. Based on this potential, Shaw Environmental has been contracted to assist in further delineating the perchlorate in groundwater, performing an aquifer test, followed by a treatability study to determine viable ways to address the contamination. Work Plan documents are being produced and those are scheduled for submittal to the BCT in a month or two. Upon BCT approval of the Work Plan, the Navy would be in a position to mobilize for fieldwork probably in late summer 2004.

Mr. Brown reiterated that the Navy's goals and objectives are to further characterize and define the aquifer. Also, the hydraulic conductivity at Site 1 appears to be very low based on existing groundwater information. If the new delineation data confirms that this is the case, he stated, there is likely no way that perchlorate would migrate to Site 2. At the end of next month (April 2004), Earth Tech will be installing and developing a couple of wells on Orange County property near Site 2 to help delineate TCE contamination. They will also install a well between Site 1 and Site 2 to help determine if there has been any movement of perchlorate from Site 1 to Site 2. In addition, just above the Site 1 perchlorate area, a continuous bore will be taken all the way down to the deep aquifer to obtain data on the subsurface stratigraphy and the lithology to help determine the construct of the aquifer. This data will be used in developing the Work Plan for the additional Site 1 aquifer delineation.

Mr. Brown explained that the Navy has been working to remove old EOD training materials classified as OE (ordnance explosive) and UXO (unexploded ordnance), some of which contains scrap that is considered to be recyclable. Removal of these materials was part of the Site 1 remedial investigation activities. These materials, which also contain residual components and scrap, were collected and placed on a staging area platform at Site 1. Prior to removing these materials from the area, the Navy is required to perform and submit an Explosives Safety Submittal or ESS, because of accidents that have occurred across the country from personnel attempting to demilitarize OE and UXO. The Navy is working with Shaw Environmental to generate the ESS, and the Navy is planning to remove the OE, UXO and scrap materials around the second week of June 2004. These materials will be "demilitarized" which renders ordnance-like materials, those that cannot be associated or identified with anything that looks like or resembles a munition, as wastes ready for disposal. Per the Navy's agreement with the BCT, these materials will be disposed of at a licensed Treatment Storage Disposal Facility.

Mr. Piszkin stated that in regard to the demilitarization of the scrap stored at Site 1, the Navy does not suspect that there are any safety issues with the recycling of the scrap because it pretty much has been mangled by the training operations. However, it still falls under the protocol for playing it extra safe with anything that was previously used as ordnance.

Mr. Brown stated that he has a caveat for the material that will be presented by Mr. Wanyoike for the Site 1 Retention Pond in the next portion of this presentation. The information is "cutting edge" and the BCT is reviewing it right now and providing comments. The reason for the caveat is that this information may change in the future once the BCT has had a chance to provide comments. It is anticipated that comments will be received within two or three weeks, and the Navy will proceed with sampling at that point. He added that when the remedial investigation was conducted at Site 1, the pond was avoided because of the potential to disturb the Riverside fairy shrimp. The geophysical survey very gingerly scanned that area and found a couple of anomalies. Subsequent to that investigation, there were concerns from the regulatory agencies that there may be negative influences to the pond, so the U.S. Fish and Wildlife Service issued a permit for the Navy to take samples of the fairy shrimp at the pond area to determine if there are influences. A grid has been laid out and samples are going to be obtained from under those two anomalies, another location at the very low point of the pond, and the balance of the samples will be random composite samples from the grid spaces. If there are any detects against the mean contaminant concentration in comparison with the background that exists for the site, then a toxicity study will be conducted using a surrogate species for the Riverside fairy shrimp. Sediments from the pond area will be collected and hydrated and used in the toxicity test to determine if there is any discernable influence to the survival rate of the species.

Site 1 and Retention Pond Background

Mr. Wanyoike briefly pointed out that Site 1 consists of about 74 acres located in the northwest of the station. It was used for explosives handling training, which involved detonating explosives to learn how to do this safely. The northern part of the Site 1 was used by the military and the southern part was used by the Orange County Sheriff's Department for similar types of EOD exercises. He explained that a remedial investigation was conducted focusing on reassessing the impacts of all the operations conducted at Site 1. A Work Plan was completed in 2001 based on review of historical documents and previous site investigations. It called for using geophysical methods to establish

where there were subsurface anomalies and conducting soil and groundwater sampling. There was also a screening ecological risk assessment to determine if there were any impacts to ecological receptors. The pond at Site 1 did not have a significant amount of anomalies, but the Navy wanted to ensure that there were no impacts to the Riverside fairy shrimp so this area was purposely not sampled at that time. In subsequent discussions with the U.S. Fish and Wildlife Service, the agency expressed a need to document any impacts to the fairy shrimp. The Navy, BCT members, and the U.S. Fish and Wildlife Service have been working to establish the best way to evaluate those impacts. Addressing the pond area is a continuation of the remedial investigation to determine what risks are posed by the site from both a human health and an ecological standpoint.

Mr. Wanyoike said that the pond at Site 1 was created around 1980. A berm was created to prevent sheet flow through the site which created the pond. When the Environmental Impact Statement was prepared for the station, a host of investigations were conducted to evaluate all the sensitive and endangered species at the station. At the pond, four adult Riverside fairy shrimp were discovered which triggered all the activities underway to assess the impacts to this species.

Mr. Wanyoike explained that Riverside fairy shrimp is relatively small aquatic organism, with a red-colored tail, that ranges from ½ to 1 inch in length, and is listed as a Federally Endangered Species. The typical life cycle starts with a vernal pool that becomes inundated with water over a period of time ranging from 3 weeks to 6 months. (A vernal pool is also defined as a seasonal wetland which is often dry during late summer months.) Once such a pond or vernal pool is created, it may become a good habitat for the Riverside fairy shrimp. As the water level in the pond decreases, the salinity goes up, and the shrimp lay their eggs. The eggs can remain dormant for long periods of time at the bottom of the pond. Eggs may be retained by the female until it dies and sinks to the bottom. Once dried and lying on the surface of the vernal pool soil, resting eggs can remain viable embryos for up to 10 years until another wet season when they hatch and complete another generation. The shrimp eggs hatch anywhere from six to ten days after water inundation of the pond, depending on water temperature. Mr. Wanyoike said that the Riverside fairy shrimp is similar to the San Diego fairy shrimp. They are also similar to the brine shrimp which are akin to the sea monkeys that one could purchase years ago. Once they are put in water they hatch and live out their life cycle.

A Draft Work Plan Amendment was prepared about a year and a half ago (November 2002) to assess the pond, determine the impacts to the fairy shrimp, and to collect samples from the two geophysical anomalies where it is suspected that there could be impacts to the fairy shrimp. Locations where water had accumulated were selected; these locations are also places where contamination could accumulate. The Draft Work Plan Amendment was reviewed by the BCT and the U.S. Fish and Wildlife Service. During the past year, the Navy and its contractors, and the regulators have been going back and forth to formulate different ways to evaluate any actual adverse exposure of the fairy shrimp to contaminants at this area of Site 1.

Options for Evaluating the Retention Pond

Mr. Wanyoike explained that three options have been considered to determine the impact to the Riverside fairy shrimp. One is to take soil samples and have those analyzed, and compare those results to soil or sediment chemical concentrations and benchmarks. This would involve use of reporting limits and MCAS El Toro background concentrations to screen analytical results. The second option would involve some surface water sampling and an evaluation to determine if there are any contaminants in that water that would indicate if any contamination is present in the soil and

subsequently the pond water. The third option would involve toxicity testing whereby samples from the pond are obtained and a surrogate species is used to determine if there are adverse impacts to the Riverside fairy shrimp directly related to any contaminants detected at the area. This comprises the three main options the BCT has considered in determining impacts to the Riverside fairy shrimp.

This latest Draft Final Sampling and Analysis Plan was submitted for BCT review in March 2004. It calls for collecting sediment samples at three specific locations at the two geophysical and lowest portion of the pond. The premise is that those are the places where contamination is expected if there has been a contaminant release. An additional part of this strategy is to grid the entire pond and collect samples based on the grid. This would consist of 13 random aggregate samples. Samples collected from the lowest point in the pond would indicate if there is any accumulation of contaminants. The samples collected would be composite samples that would be compiled together and submitted to the laboratory for analyses. Samples would be analyzed for VOCs, semivolatile organic compounds (SVOCs), petroleum hydrocarbons, metals, perchlorate, and explosives.

The next step will determine how to evaluate sample results. The first comparison is to determine if there are any detections and compare these to background concentrations for the site. If there is anything that exceeds the background threshold, then the next step would be to conduct the toxicity testing which would use the water flea, which was determined to be the best surrogate for the Riverside fairy shrimp. The total population of water fleas will be counted as well as those that die off and this will be compared to natural die off rates. The count is a direct measurement, and if the population die off is statistically higher than the natural die off, it could be inferred that the water in the pond is toxic to the water flea, and by further inference the water would be presumed toxic to the fairy shrimp. If it is determined that the water is toxic, then further evaluation of the area may be necessary to determine what needs to be done to protect the endangered fairy shrimp.

The Navy is still working with the regulatory agencies to finalize the Amendment to this Plan. The current schedule calls for the Amendment to be finalized in May 2004, followed by soil and sediment sampling in June 2004. Results will be incorporated into the Remedial Investigation Report which is scheduled to be completed in November 2004.

Discussion

Mr. Chris Crompton, RAB member representing County of Orange, Environmental Management Agency, said that with the toxicity testing if soil samples are collected at 5 feet below the ground surface and re-hydrated, how can soil samples be equated to water samples? Mr. Wanyoike clarified that the toxicity test samples will consist of surface soil samples that have water added to the soil, and this is the accepted-ASTM protocol. One of the challenges is to assess the ecological risk to the fairy shrimp, and since this pond is rarely inundated with water, it is necessary to determine what would be the best time to collect samples from the pond. So the other option is to collect a sample of the sediment, and then the question comes up how much water to add. Basically, these questions have been reviewed back and forth with the regulators. It has been determined that all samples should be collected and analyzed to determine if there are any detections, then the next best step is to conduct the toxicity test. Mr. Crompton asked how it can be determined if the water concentrations have any relationship to the conditions of the full-grown fairy shrimp in the ponds. Mr. Wanyoike stated that one of the options would be to do the actual toxicity test with the fairy shrimp, but investigators were not able to find a location to obtain some fairy shrimp, so they opted to work with a different set of controls to determine the mixture of sediment to water that would create the proper

conditions. Mr. Crompton asked if the ASTM protocol was actually developed for vernal pools. Mr. Wanyoike replied that this was the best available protocol for the vernal pool situation, but it was not developed specifically for vernal pools. He added that there are protocols for the next phase for collecting and analyzing samples from the pond to determine what constituents in the soil are contributing to any dying off of fairy shrimp that may be occurring.

Ms. Rudolph asked if contaminants are found at the pond, how would these contaminants be addressed without killing the fairy shrimp or moving them. Mr. Wanyoike responded that creating a new vernal pool and relocating the fairy shrimp is one option, because anything that is done at the pond, including soil sampling, has a potential to negatively affect the shrimp.

Dr. Brown asked how this berm area came about since it previously consisted of natural land contours. Mr. Wanyoike stated that essentially this was a valley with sheet flow through the entire valley. Because of training activities at Site 1, the area was bermed in 1988 to prevent sheet flow and subsequently the pond was formed. Topographic maps were examined and that pond area is not on maps prior to 1988. Dr. Brown asked if the berm area has created any potential for contamination. Specifically, is contamination present at the pond from being deposited due to use of explosives at that site, or are contaminants being transferred by runoff coming to this site and being held by the berm. He said that by just adding water to sediment samples collected, this may not mirror conditions that are actually happening at the site. Mr. Brown responded that historically, there is no evidence that detonations were ever performed in this area. During the initial remedial investigation, samples were collected around the periphery and there were no elevated concentrations that would be of concern. The Navy considered this a proactive approach since steps were taken to ensure that the pond was not disturbed. Mr. Brown said the down-water gradient is away from the pond, but the predominant wind direction is towards the pond, so if there is contamination from the pond, it would most likely be due to wind drift. Since we are talking VOCs and SVOCs, and given the amount of time since explosive activities have taken place, those contaminants would most likely be gone, and that is what the Navy is assessing here.

Mr. Brown explained that fairy shrimp present an interesting problem. At Camp Pendleton, there are mud puddles that are formed on a dirt road, and some of those puddles, because of the way these fairy shrimp cysts (protective sac or capsule that protects organisms in a dormant stage) stick to tires, some of those mud puddles have fairy shrimp in them and others do not. Because the fairy shrimp issue is very specific to Southern California, there has not been a lot of work done on this. The Navy asked for some preliminary remediation goals or PRGs from U.S. Fish and Wildlife Service for the vernal pool at Site 1, but there are none. Then the Navy looked for other bases where this was an issue, and this has not been dealt with anywhere else. The Navy is doing as much as possible in trying to determine any impact on the fairy shrimp and how to protect this species.

Mr. Mahmoud said that the State of California has a procedure (Lethal Dose 50) for testing toxicity for solid waste, especially for soil where water is added. He explained that for this procedure 100 fish are added and if 50 or more fish die then that indicates there is a toxic situation. Mr. Crompton stated that specific test is designed for an assumption that solid waste is present under certain conditions and parameters that again would be using a detailed protocol while trying to make it fit conditions at Site 1 even though they may not fit. Mr. Brown added that one thing that may be added to such a protocol would be a bulleted list of variables with a suggested weight anticipated for each of those variables.

Mr. Piszkin acknowledged appreciation for Mr. Wanyoike's presentation and the level of detail provided. He added that there are a lot of variables and no set protocol for analysis for the fairy shrimp. He stated that there may be some natural variation that affects the survival of the fairy shrimp, and considering the life cycle of the cysts that may eventually hatch, there is a chance that the Riverside fairy shrimp would survive regardless of any influence past operations may have at Site 1, we just don't know at this time. He stressed that this is why it's taken a year and a half to complete the Draft Final Draft Final Sampling and Analysis Plan for BCT and regulatory agency review.

A RAB attendee asked if the Site 1 property is staying under federal government control, specifically FBI control, so people will be prevented from walking through there. Also, is there potential for future detonation work at the range? Mr. Gould responded that the Navy has recently received word that the FBI may no longer be interested in Site 1, so there may be other alternatives for this site.

◆ **Update on Sites 3 and 5 Landfills, Mr. Karnig Ohannessian, Remedial Project Manager, SWDIY**

Mr. Ohannessian began his presentation with some background information on Sites 3 and 5, inactive landfills. Site 3, Original Station Landfill, operated from 1943 to 1955 and covered about 11 acres. Site 5, Perimeter Road Landfill, is a long, narrow landfill about 1,200 feet long that operated from 1955 to the late 1960s. Both are old, inactive landfills that have already generated any methane that they are likely to generate.

Mr. Ohannessian explained that there have been two phases of remedial investigation between 1993 and 1997, with a feasibility study in 1997, and a Draft ROD in March 1999. Then in 2000 and 2001, the radiological survey was conducted, and the Navy is now working to finish up the Radiological Release Report for Sites 3 and 5. The project will then get back to completing the pre-design investigation stage for the remedial design, which started in 2002 and continued on in 2003.

The selected remedy in the 1999 Draft ROD is a landfill cap with a flexible membrane liner (FML). The land-use restrictions would include monitoring for landfill gas and groundwater. In 1999, landfill gas collection was not warranted because there are very low soil gas concentrations. The recent investigation conducted involved a lot of trenching to delineate the actual waste placement boundary for these landfills. This is a necessary step prior to the design of the landfill caps. The Navy developed a Draft Technical Memorandum to identify the data gaps for BCT review in August 2003. The boundary for the waste placement was a lot smaller than originally thought, so digging more trenches was done to make sure the Navy knows the extent of the wastes. Early in March 2004, landfill gas samples were collected from within the waste to determine waste boundaries, and to confirm if landfill gas is present or absent at the places where it would most likely be generated. Samples have been obtained at Site 3 and are currently being collected at Site 5. The Navy is now working with the regulators and the California Integrated Waste Management Board (CIWMB) to determine the optimal mix of institutional controls and engineering controls to ensure that landfill gas is not going to be a problem. Those land-use restrictions would then be included in the FOST and FOSL for this property.

Mr. Ohannessian stated that U.S. EPA, DTSC and the RWQCB suggested that the Navy contact the CIWMB because they are the landfill experts and it is advisable to work with them on an approach for conducting this investigation. Working with the CIWMB also speeded up the approval process and has provided the Navy with data needed to make decisions for Site 3 and 5. Gas samples were collected at depths of 15 and 17 feet in the waste areas to determine depth of the waste in the landfills – 34 locations at Site 3 and 11 locations at Site 5 were sampled in this manner. Samples were also obtained at the boundary of Site 5 and analyzed for presence of methane which is of particular interest to the CIWMB.

Mr. Ohannessian explained that the trenching at Sites 3 and 5 was very thorough and indicated there is a large area of municipal-type of waste at Site 3. In addition, there is an even larger area of other types of debris and a couple of pockets of debris on the left side of the wash, and a debris and waste area on a side of the wash which is outside the traditional boundary of the landfill. Therefore, trenching and potholing has helped define the extent of the debris. This allowed for placing soil gas probes in a much tighter spacing to zero in any landfill gas.

At Site 5, placement of soil gas probes to measure for landfill gas and defining the waste boundary was not difficult. For methane, the threshold that requires action is 50,000 parts per million (ppm). At Site 3, less than 76 ppm was detected, while at Site 5 landfill gas was measured at 130 ppm. These are very low concentrations of methane, which is what is expected since these are old, inactive landfills. Also, most of the waste was burned before placement in the landfills. These methane concentrations were taken from within the landfills where the highest concentrations would be expected. In the perimeter well, the highest concentration was 15 ppm. The previous investigation conducted about a year ago, methane was measured at 11 ppm.

The Navy will present this information to the regulators at the BCT meeting tomorrow and work to get an optimal mix of land-use restrictions and engineering controls. A Draft Final Tech Memo will be issued containing all the landfill gas results, trenching results, and additional data collected. A revised Draft ROD will be issued for BCT review that contains new information presented tonight.

Discussion

Dr. Brown asked how the Navy interprets the new data that pertains to installing the caps, and how this helps determine the types of institutional controls. Mr. Ohannessian explained that the key concern is that if a landfill is capped, concentrations of landfill gas increase because materials are confined, also under capped conditions landfill gas tends to migrate laterally. The Navy wants to prevent that from happening, so there will probably be a mix of monitoring and engineering control systems. Those systems will be in place if they are needed. There will also be land-use restrictions pertaining to new construction and an approval process.

Dr. Brown asked once the cap is in place with engineering control systems that can be turned on if needed, ultimately can this site be used as long as the cap is not disturbed, or is this going to be fenced off to prevent access. Mr. Ohannessian stated that the restrictions would prevent against disturbing the cap, but outside of the site boundaries, CIWMB protocols would be relied upon for mitigating the potential for landfill gas to accumulate. There would be locations where construction is prohibited, and other places where approval would need to be obtained before construction could occur, and these are issues that have to be addressed in the FOST and FOSL.

Mr. Piszkin stated that he would like to share that these latest supplemental landfill gas sampling results validated the remedial investigation previously conducted and the data incorporated into the Draft ROD in 1999; and at that time, landfill gas was not identified as a major concern. He added that the Navy's latest efforts addressed recent concerns regarding landfill gas and served as an extra double-check.

Mr. Piszkin explained that the CIWMB has asked to conduct their own sampling for landfill gas at Sites 3 and 5. However, the Navy has a very strict protocol for sampling and analysis, so if anyone, including CIWMB wants to come in and do their own sampling, they must meet the same quality requirements that the Navy is held to for their sampling to have any comparative value. The Navy protocol, as developed with BCT concurrence, must be followed; and it includes providing information on who collected the samples, what laboratory analyzed the samples and proof the labs are certified by the State of California, and information on who validated the data and sampling results.

◆ Open Q & A -- Environmental Topics

The RAB members did not have any further questions.

MEETING EVALUATION AND FUTURE TOPICS

Meeting evaluation by RAB members:

RAB members provided the following positive feedback:

- The available maps always provide good information.
- Presentations are very informative.

RAB members did not have any negative feedback.

Suggestions for future presentation topics include:

- Update on Well ET-2 situation.
- Update on Anomaly Area 3.
- Update on the California gnatcatcher and coastal sage issues.
- Update on perchlorate issues.

CLOSING ANNOUNCEMENTS/FUTURE MEETING DATES

Upcoming RAB Meeting, and Subcommittee Meeting

The next RAB meeting will be held from 6:30 to 9 p.m., May 26, 2004 in the regular meeting location, Irvine City Hall, Conference and Training Center (CTC), One Civic Center Plaza, Irvine. A RAB Subcommittee meeting will be held from 5 to 6 p.m., the same evening in Room L-104 at Irvine City Hall.

Recent RAB Subcommittee Meetings

The most recent RAB Subcommittee meeting was held Wednesday, March 31, 2004, in Room L-104, Irvine City Hall, before tonight's RAB meeting.

RAB Meeting Adjournment – March 31, 2004 Meeting

The 68th meeting of the MCAS El Toro Restoration Advisory Board was adjourned at 9:06 p.m.

See below for list of meeting handouts.

Materials/Handouts Include:

- *RAB Meeting Agenda/Public Notice – 3/31/04 RAB meeting – 68th meeting.
- *Meeting Minutes from the January 28, 2004 RAB meeting – 67th Meeting.
- MCAS El Toro RAB Meeting Schedule, Full RAB and RAB Subcommittee (July 2003-July 2004).
- MCAS El Toro RAB Mission Statement and Operating Procedures.
- RAB Membership Application – MCAS El Toro RAB.
- MCAS El Toro RAB Membership Roster.
- MCAS El Toro Installation Restoration Program – Mailing List Coupon.
- MCAS El Toro – BRAC Cleanup Team Members and Key Project Representatives and Administrative Record File and Information Repository Locations and Contacts.
- Internet Access – Environmental Web Sites.
- One-Page Glossary of Technical Terms.
- Draft Revised Proposed RAB Rule, January 2004, from the Department of Defense.
- Department of Navy – Policy for Conducting Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Statutory Five-Year Reviews, November 2001.
- Department of Defense – Institutional Controls, Spring 1997.
- Department of Defense – A Guide to Establishing Institutional Controls at Closing Military Installations, February 1998.
- Department of Defense – Memorandum - Responsibility for Additional Environmental Cleanup after Transfer of Real Property, 1997.
- U.S. EPA Fact Sheet – A Citizen's Guide to Natural Attenuation, October 1996.
- Brochure – Commonly Asked Questions Regarding the Use of Natural Attenuation for Chlorinated Solvent Spills at Federal Facilities (Brochure developed through a partnership of U.S. EPA, Air Force, Army, Navy, and Coast Guard).
- U.S. EPA Fact Sheet – Checking Up on Superfund Sites: The Five-Year Review, June 2001.
- U.S. EPA Fact Sheet – Perchlorate Update, March 2002.
- Irvine Ranch Water District – Memorandum, 3/31/04, to the MCAS El Toro RAB – Irvine Desalter Project Update.
- *Presentation* - MCAS El Toro RAB Meeting, March 31, 2004, IRP Site 1 Retention Pond Update, presented by Gordon Brown, SWDIV Remedial Project Manager, and Crispin Wanyoike, Earth Tech, Inc.
- *Presentation* – MCAS El Toro RAB Meeting, March 31, 2004, Pre-Design Investigation IRP Sites 3 and 5 Supplemental Landfill Gas Investigation, presented by Karnig Ohannessian, SWDIV Remedial Project Manager.

* Mailed to all RAB meeting mailer recipients on 3/24/04.

Agency Comments and Letters - U.S. Environmental Protection Agency (U.S. EPA)

- U.S. EPA, Comments – EPA Comments on Draft Expanded Site Inspection Report, Anomaly Area 3, Former Marine Corps Air Station, El Toro, dated November 2003 - To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Nicole Moutoux, Project Manager, Federal Facilities Cleanup Branch, U.S. EPA (letter dated February 12, 2004).

Meeting Minutes 3/31/04 MCAS El Toro RAB Meeting

- U.S. EPA, Comments – 60% Design Submittal Site 18 and Site 24 Groundwater Remedy, Former MCAS El Toro, dated January 2004 - To: Steven Malloy, Principal Engineer, Irvine Ranch Water District; From: Nicole Moutoux, Project Manager, Federal Facilities Cleanup Branch, U.S. EPA (letter dated February 24, 2004).
- U.S. EPA, Comments – EPA Review Comments on 60% Design Submittal and Pre-Design Investigation Technical Memorandum, Shallow Groundwater Unit Remedy, IRP Site 24, Former Marine Corps Air Station, El Toro, dated January 30, 2004 - To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Nicole Moutoux, Project Manager, Federal Facilities Cleanup Branch, U.S. EPA (letter dated March 16, 2004).

Agency Comments and Letters – California Environmental Protection Agency (Cal-EPA)

- Cal-EPA, Department of Toxic Substances Control (DTSC) – Summary Report for Aerial Photograph Anomaly (APHO) 103 (DTSC Concurs with No Further Action), Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated March 15, 2004).
- Cal-EPA, DTSC – Summary Report for Aerial Photograph Anomaly (APHO) 93 (DTSC Concurs with No Further Action), Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated March 18, 2004).
- Cal-EPA, DTSC – Comments on Radiological Survey Data and Information for Building (Trailer) 860, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated March 19, 2004).
- Cal-EPA, DTSC – Approval of Site Assessment Report for Oil Water Separator (OWS) 845, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated March 23, 2004).
- Cal-EPA, DTSC – Comments on Draft Technical Memorandum, Pre-Design Investigation for Shallow Groundwater Unit Remedy, IRP Site 24, Volatile Organic Compounds Source Area, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated March 29, 2004).
- Cal-EPA, DTSC – Approval of Closure Report for Former Pesticide Storage Area MSC P1, Unit 1, Former MCAS El Toro – To: F. Andrew Piszkin, BEC, MCAS El Toro; From: Tayseer Mahmoud, Remedial Project Manager, DTSC (letter dated March 30, 2004).

California Regional Water Quality Control Board (RWQCB), Santa Ana Region

- No Items Submitted

RAB Subcommittee Handouts and Letters *(generally provided by Marcia Rudolph, MCAS El Toro RAB Subcommittee Chair)*

- No Items Submitted

Additional Information Submitted – 3/31/04 RAB Meeting

- No Items Submitted

Copies of all past RAB meeting minutes and handouts are available at the MCAS El Toro Information Repository, located at the Heritage Park Regional Library in Irvine. The address is 14361 Yale Avenue, Irvine; the telephone number is (949) 551-7151. Library hours are Monday through Thursday, 10 am to 9 p.m.; Friday and Saturday, 10 am to 5 p.m.; Sunday 12 p.m. to 5 p.m.

Internet Sites – see next page

Internet Sites

Navy and Marine Corps Internet Access

***Naval Facilities Engineering Command, Southwest Division, Environmental Web Sites
(includes RAB meeting minutes):***

www.efdsw.navfac.navy.mil/environmental/envhome.htm

www.efdsw.navfac.navy.mil/environmental/ElToro.htm

Department of Defense – Environmental Cleanup Home Page Web Site:

<http://www.dtic.mil/envirodod/>

U.S. EPA:

www.epa.gov (this is the homepage)

www.epa.gov/superfund (site for Superfund)

www.epa.gov/ncea (site for National Center for Environmental Assessment)

www.epa.gov/federalregister (site for Federal Register Environmental Documents)

Cal/EPA:

www.calepa.ca.gov (this is the homepage)

www.dtsc.ca.gov (site for Department of Toxic Substances Control)

www.swrcb.ca.gov/ (site for Santa Ana Regional Water Quality Control Board)

**MCAS EL TORO
RESTORATION ADVISORY BOARD MEETING
March 31, 2004**

RAB MEMBER SIGN-IN SHEET

Name	Signature	Name	Signature
Bell, Richard		Marquis, Suzanne	
Broderick, John	EAB	Matheis, Mary Aileen	<i>Mary Aileen Matheis</i>
Crompton, Chris	<i>Chris Crompton</i>	Meier, Fred J.	<i>Fred J. Meier</i>
Herndon, Roy		Olquin, Richard	
Hersh, Peter	EAB	Piszkin, Andy - Co-Chair	<i>F.A. Piszkin</i>
Hurley, Greg	<i>Greg Hurley</i>	Reavis, Gail	
Jung, Dan		Rudolph, Marcia	<i>MR.</i>
Mahmoud, Tayseer	<i>Tayseer Mahmoud</i>	Sharp, Steven	
Malloy, Steve		Werner, Jerry	
Moutoux, Nicole	<i>Nicole Moutoux</i>	Woodings, Bob - Co-Chair	<i>Bob Woodings</i>
Marquis, Roland		Zweifel, Donald E.	

EAB = Excused Absence

See new address + e-mail

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

ADDRESSES AND PHONE NUMBERS
OF PRIVATE CITIZENS

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

SENSITIVE

MCAS EL TORO
RESTORATION ADVISORY BOARD MEETING
March 31, 2004

New Attendees
will be added
to the MCAS
El Toro
Mailing List.

NON-RAB MEMBER SIGN-IN SHEET
Other Attendees, Guests

<u>NAME</u> <u>PLEASE PRINT CLEARLY</u>	<u>AFFILIATION</u>	<u>COMPLETE MAILING ADDRESS</u> <u>[STREET NUMBER, STREET NAME, CITY,</u> <u>STATE, ZIP CODE]</u>	<u>PHONE</u> <u>FAX</u>	<u>INTERESTED</u> <u>IN RAB</u> <u>MEMBERSHIP?</u>
Larry Laven	Member of Public	913 S. Trident St #6 Anaheim Calif. 92804	714 776 1932	NO
JACK CARMODY	" "	50 DONATELLO AZISOVIEJO 92656	949 2352799	
Brian FOSTE	Cal Poly Univ.	300 NORTA ST., 3rd Fl. SAN BERNARDINO, CA 92418	(909) 384-5057	NO
Kernig O'hannessian	Navy	1230 Columbia St #870 San Diego, CA 92101	619-532-0746	-
Dean Gould	NAVY	" "	619-532-0765	
Raymond Ouellette	Resident of Abasco Viejo		(949) 261-1577	

SENSITIVE

MCAS EL TORO
RESTORATION ADVISORY BOARD MEETING

March 31, 2004

NON-RAB MEMBER SIGN-IN SHEET
Other Attendees, Guests

New Attendees
will be added
to the MCAS
El Toro
Mailing List.

<i>NAME</i> <i>PLEASE PRINT CLEARLY</i>	<i>AFFILIATION</i>	<i>COMPLETE MAILING ADDRESS</i> <i>[STREET NUMBER, STREET NAME, CITY, STATE, ZIP CODE]</i>	<i>PHONE</i> <i>FAX</i>	<i>INTERESTED</i> <i>IN RAB</i> <i>MEMBERSHIP?</i>
Angela Williams	BNI	—	—	—
Viola Cooper	US EPA community involvement			
LEN ALLEN	WINDY & MOORE			
CRISPIN WANYOIKE	EARTHTECH		562 951 2057	—
Diana Jy Rawal	ECS Inc	24282 SUNNYBROOK CIR LAKE FOREST CA 92630	949- 43 -6486 413- 949-770-2331	
Bob Coleman	Bechtel / Navy CLEAR	—	—	—

SENSITIVE

MCAS EL TORO
RESTORATION ADVISORY BOARD MEETING

March 31, 2004

NON-RAB MEMBER SIGN-IN SHEET

Other Attendees, Guests

New Attendees
will be added
to the MCAS
El Toro
Mailing List.

<i>NAME</i> <u>PLEASE PRINT CLEARLY</u>	<i>AFFILIATION</i>	<i>COMPLETE MAILING ADDRESS</i> <i>[STREET NUMBER, STREET NAME, CITY,</i> <i>STATE, ZIP CODE]</i>	<i>PHONE</i> <i>FAX</i>	<i>INTERESTED</i> <i>IN RAB</i> <i>MEMBERSHIP?</i>
MICHAEL BROWN	CITY OF IRVINE			
JOHN LOVENSBERG	CH2 M HILL			
MAX PAN		3741 SUR AVE IRVINE, CA 92606		
Bill Sedlak	Kennedy Jentes	2151 McClellan #100 IRVINE	949-261-1577	

SENSITIVE

**MCAS El Toro -- Meeting Schedule
Restoration Advisory Board (RAB)
Full RAB and RAB Subcommittee Meetings**

July 2004 – July 2005

All RAB meetings are open to the public.

RAB Meetings: The Conference and Training Center (CTC) at Irvine City Hall has been reserved for RAB meetings (full RAB) on the last Wednesday of the month, dates are listed below. **Time: 6:30 – 9:00 p.m.**

RAB Subcommittee Meetings: Subcommittee meetings are held on the *SAME DAY* as the full RAB meeting from 5 to 6:00 p.m. in a smaller room. Conference Room L-104, next to the Council Chambers has been reserved. **General Meeting Time: 5:00 – 6:00 p.m. (Room is available from 4:30 to 6:30 p.m.)**

RAB and Subcommittee Meeting Dates	RAB Meeting Room – Conference and Training Center (CTC) 6:30 – 9:00 p.m.	Subcommittee Meeting Room – Room L-104 5:00 – 6:00 p.m.
Wed, July 28, 2004	CTC	Room L-104
Wed., September 29, 2004	CTC	Room L-104
Wed., December 1, 2004*	CTC	Room L-104
Wed., January 26, 2005	CTC	Room L-104
Wed., March 30, 2005	CTC	Room L-104
Wed., May 25, 2005	CTC	Room L-104
Wed., July 27, 2005	CTC	Room L-104

Additional Date Reserved: Wed., April 27, 2005

* Traditionally when Thanksgiving falls on the last week of November, the RAB meeting has been held the first week of December. (In Nov. 2004, the last Wednesday of the month is the day before Thanksgiving.)

MARINE CORPS AIR STATION EL TORO
Installation Restoration Program
Restoration Advisory Board Mission Statement and Operating Procedures

This "Marine Corps Air Station (MCAS) El Toro, Installation Restoration Program, Restoration Advisory Board (RAB), Mission Statement and Operating Procedures," replaces the Revised Version dated January 31, 1996. This revised document contains a new section on the RAB Subcommittee, which replaces the old section. The new section is based on modifications made and approved by a majority vote of the RAB members present at the April 21, 1999 RAB meeting with further refinements made at the May 26, 1999 RAB meeting. Modifications incorporated resulted in revising the subcommittee structure so there is now only one RAB subcommittee. (Note: the original Mission Statement document was dated and signed on February 28, 1995.)

The Restoration Advisory Board (RAB) mission statement and operating procedures, herein referred to as "the mission statement and operating procedures", is entered into by the following parties; U. S. Marine Corps (USMC); U. S. Environmental Protection Agency (USEPA), Region 9; California Department of Toxic Substances Control (DTSC), Region 4; and the RAB. Marine Corps Air Station (MCAS) El Toro has developed a Community Relations Plan (CRP) which outlines the community involvement program. The RAB supplements the community involvement effort. A copy of the CPP is available at the information repository located at the Heritage Park Regional Library, 14361 Yale Avenue, Irvine, CA 92714.

I. Mission Statement of the RAB

a. The mission of the RAB is to promote community awareness and obtain timely constructive community review and comment on proposed environmental restoration actions to accelerate the cleanup and property transfer of MCAS El Toro. The RAB serves as a forum for the presentation of comments and recommendations to USMC, Remedial Project Managers (RPMS) of USEPA, and DTSC.

II. Basis and Authority for this Mission Statement and Operating Procedures

a. This mission statement and these operating procedures are consistent with the Department of Defense (DoD), USEPA Restoration Advisory Board Implementation Guidelines of September 27, 1994, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendment and Reauthorization Act (SARA) of 1986, particularly Sections 120 (a), 120 (f), 121 (f), and 10 U.S.C. 2705, enacted by Section 211 of SARA, and September 9, 1993, DoD policy letter entitled, "Fast Track Cleanup at Closing Installations".

III. Operating Procedures

A. Membership

1. All RAB members must reside in or serve communities within Orange County.
2. Members shall serve without compensation. All expenses incidental to travel and review inputs shall be borne by the respective members or their organization.
3. If a member fails to attend two consecutive meetings without contacting the RAB, or at least one of the RAB co-chairs, or fulfill member responsibilities including involvement in a subcommittee, the RAB co-chairs may ask the member to resign.
4. Members unable to continue to fully participate shall submit their resignation in writing to either of the RAB co-chairs.
5. Total membership in the RAB shall not exceed 50 members.
6. Applications for RAB membership vacancies shall take place as such vacancies occur. Applications will be reviewed and approved by the Base Realignment and Closure (BRAC), Environmental Coordinator (BEC), USEPA, and DTSC along with consultation with the RAB community co-chair. Candidates will be notified of their selection in a timely manner.
7. Each RAB community member is considered equal whatever their position in the community, and has equal rights and responsibilities.

RAB Membership Responsibilities

- a. Actively participate in a subcommittee and review, evaluate, and comment on technical documents and other material related to installation cleanup, all assigned tasks are to be completed within the designated deadline date.
- b. Attend all RAB meetings.
- c. Report to organized groups to which they may belong or represent, and to serve as a mediator for information to and from the community.
- d. Serve in a voluntary capacity.

B. RAB Structure

1. The RAB shall be co-chaired by the MCAS El Toro BEC, and a community co-chair member. The BEC shall preside over the orderly administration of membership business.

2. A community co-chair will be selected by a majority vote of the RAB community members in attendance. Elected officials and government agency staff members of any legally constituted MCAS El Toro reuse groups are excluded from holding the community co-chair position. The community co-chair will be selected annually on the anniversary of the effective date of the agreement.

Community Co-Chair Responsibilities

- a. Assure those community issues and concerns related to the environmental restoration/cleanup program are brought to the table.
- b. Assist the USMC in assuring that technical information is communicated in understandable terms.
- c. Coordinate with the BEC to prepare and distribute an agenda prior to each RAB meeting, and for the review and distribution of meeting minutes.
- d. Assist subcommittees in coordinating and establishing meeting times/locations.
- e. The community co-chair may be replaced by a majority vote of the RAB community members present at the meeting in which a vote is undertaken.

3. The RAB shall meet quarterly. More frequent meetings may be held if deemed necessary by the RAB co-chairs. The BEC will facilitate in the arrangement of the meetings and notify members of the time and location.

4. Agenda items will be compiled by the RAB co-chairs. Suggested topics should be given to the BEC or community co-chair no later than two (2) weeks prior to the meeting. The BEC shall be responsible for providing written notification to all RAB members of the upcoming agenda and supporting documents, at least two (2) weeks prior to the date, time, and place of scheduled RAB meeting.

5. The BEC shall be responsible for recording and distribution of meeting minutes. Also, the BEC shall collect a written list of attendees at each meeting, which will be incorporated into the meeting minutes. For quarterly meetings, the minutes will be distributed 30 days prior to the following meeting. For more frequent meetings, the minutes will be distributed as soon as possible.

6. A copy of the RAB meeting minutes will be sent to all RAB members. Supporting documents will be available for public review in the information repository and other repositories as identified.

7. RAB members will be asked to review and comment on various environmental restoration documents. Written comments may be submitted individually by a member, or by the RAB as a whole. Written comments will be submitted to the community co-chair on the subject documents within the schedule as provided for regulatory agency comments. The community

co-chair will consolidate comments from RAB members and provide all comments received to the BEC. The BEC will ensure that a written response is provided to the RAB in a timely manner.

RAB Subcommittee

8. On April 21, 1999, the RAB concurred that only one subcommittee is necessary to provide a concentrated focus on environmental cleanup issues. Therefore, the existing relevant subcommittees envisioned in the original "Mission Statement and Operating Procedures" dated February 28, 1995, have been dissolved, and incorporated into one subcommittee.

a. Membership on the subcommittee will be comprised of volunteers from the RAB, or may be selected by the BEC and the community co-chair.

b. The regular bimonthly RAB subcommittee meeting will continue to be scheduled for the last Wednesday of the month alternating with the regular meeting of the full RAB held at Irvine City Hall, Conference and Training Center, Irvine, California.

c. The subcommittee will set their own agendas and meetings and will be open to the public. The subcommittee chair will notify the BEC and community co-chair of all meeting times and places including additional subcommittee meetings other than the regularly scheduled bimonthly subcommittee meeting.

d. The subcommittee will elect a chair. The subcommittee membership may dismiss a subcommittee chair by a majority vote. Subcommittee chair removal is determined at the meeting where removal is addressed by majority vote of the RAB members present.

e. Membership on the subcommittee will include the RAB community co-chair.

f. Subcommittee status will be reviewed annually, in May, to determine if changes are needed or the continued existence is required.

g. The RAB subcommittee may establish ad hoc subcommittees for specific issues and purposes that would focus efforts on a short-term basis.

h. The subcommittee may request the participation, involvement, and advice of regulatory agency members.

9. MCAS El Toro has established an information repository for public documents relating to restoration activities at MCAS El Toro. The repository is located at the Heritage Park Regional Library, 14361 Yale Avenue, Irvine, CA 92714. RAB members, as well as the general public, are authorized access to any documents, studies or information, which have been placed in the repository or distributed at RAB meetings. The community co-chair will be provided one (1) copy of all draft documents. The subcommittee will be provided up to seven (7) copies of draft documents.

IV. Effective Date and Amendments

a. The effective date of this mission statement and operating procedures shall be the date that the last signatory signs this mission statement and operating procedures.

b. This mission statement and operating procedures may be amended by a majority vote of the RAB members present. Amendments must be consistent with the MCAS El Toro Federal Facility Agreement (FFA), and the statues stated in Part 11 of the mission statement and operating procedures, (Basis and Authority for this Mission Statement and Operating Procedures).

V. Terms and Conditions

a. The terms and conditions of this RAB mission statement and operating procedures, and DONs endorsement thereof, shall not be construed to create any legally enforceable rights, claims or remedies against DON or commitments or obligations on the part of DON, and shall be construed in a manner that is consistent with CERCLA, 10 U.S.C. Section 2705, and 40 CFR Part 300.

VI. Termination

a. This mission statement and operating procedures will be terminated upon completion of requirements as stated in the FFA. However, after implementation of the final remedial design, it may be terminated earlier upon a majority vote of the RAB membership.

VII. Signatories to the Membership Mission Statement and Operating Procedures

IN WITNESS WHEREOF, we have set our hand this _____ day of _____ 1995.

MCAS El Toro BRAC Environmental Coordinator

RAB Community Co-Chair

U. S. Environmental Protection Agency RPM

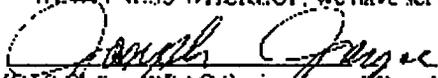
California Department of Toxic Substances Control RPM

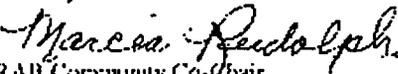
The original "Mission Statement and Operating Procedures", dated February 28, 1995, is on file at Marine Corps Air Station (MCAS) El Toro, Environment and Safety. It was signed by Mr. Joseph Joyce, Base Realignment and Closure (BRAC), Environmental Coordinator (BEC), Ms. Marcia Rudolph, Restoration Advisory Board (RAB), Community Co-chair, Ms. Bonnie Arthur, Environmental Protection Agency (EPA), Remedial Project Manager, and Mr. Juan Jimenez, Department of Toxic Substances Control (DTSC), Remedial Project Manager.

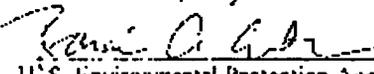
Shown below is an excerpt from the original "Mission Statement and Operating Procedures", dated February 28, 1995 with signatures of the above-mentioned individuals.

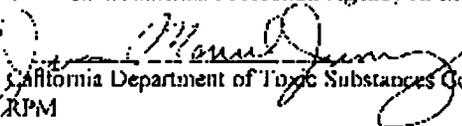
VII. Signatories to the Membership Mission Statement and Operating Procedures

IN WITNESS WHEREOF, we have set our hand this 28th day of FEBRUARY, 1995


MCAS El Toro BRAC Environmental Coordinator


RAB Community Co-chair


U.S. Environmental Protection Agency RPM


California Department of Toxic Substances Control
RPM

MEMBERSHIP APPLICATION

RESTORATION ADVISORY BOARD

MARINE CORPS AIR STATION EL TORO

Conditions for Membership:

Restoration Advisory Board (RAB) members are expected to serve a two-year term and attend all RAB meetings or designate an alternate. The alternate must be jointly approved by the Department of Defense and Community Co-Chairpersons. Members who miss three or more consecutive meetings may be asked to resign. Duties and responsibilities will include reviewing and commenting on technical documents and activities associated with the environmental restoration at the former Marine Corps Air Station El Toro. Members will be expected to be available to community members and groups to facilitate the exchange of information and/or concerns between the community and the RAB.

RAB membership priority will be given to local residents that are impacted/affected by the closure of the installation. The number of RAB members may be limited.

NAME: _____

ADDRESS: _____
Street Apt # City Zip

PHONE: () _____ () _____ Fax: () _____

GROUP AFFILIATION: _____

1. Briefly state why you would like to be considered for membership on the Restoration Advisory Board (RAB)

(Continued on back side)

2. What has been your experience working as a member of a diverse group with common goals?

3. Please indicate if you are interested in being considered for the Community Co-Chairperson position on the RAB by checking the box below:

Yes, I would like to be considered.

4. Are you willing to serve a 2-year term as a member of this RAB?

Yes, I am willing to serve a 2-year term as a member of this RAB.

5. By submitting this signed application, you are aware of the time commitment which this appointment will require for you.

6. By submitting this signed application, you willingly agree to work cooperatively with other members of the committee to ensure efficient use of time for addressing community issues related to environmental restoration of the facility.

PRIVACY ACT STATEMENT: The personal information requested on this form is being collected in order to determine interest in and qualification for membership on the Restoration Advisory Board. The information will be reviewed by a selection panel and will be retained in a file at BRAC Environmental Coordinator's Office at MCAS El Toro. The information will not be disseminated. Providing information on this form is voluntary.

Applicant Signature

Date

Please return your completed application to:

Andy Piszkin
BRAC Environmental Coordinator
Base Realignment & Closure, Environmental Division
MCAS El Toro
7040 Trabuco Road
Irvine, CA 92618

FAX – (949) 726-6586

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
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ADDRESSES AND PHONE NUMBERS
OF PRIVATE CITIZENS

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

REVISED – April 2004

MCAS EL TORO

Restoration Advisory Board - Membership Roster

Richard Bell MWD of Orange County P.O. Box 20895 Fountain Valley, CA 92728 Group Affiliation: Community Member, Metropolitan Water District	Daytime (714) 841-7809
John Broderick Santa Ana Regional Water Quality Control Board 3737 Main Street, Suite 500 Riverside, CA 92501-3338	Daytime (909) 782-4494 FAX (909) 781-6288
+Michael S. Brown, Phd 850 Cathedral Vista Lane Santa Barbara, CA 93110 Group Affiliation: Technical Consultant to City of Irvine	Daytime (805) 898-0980 FAX (805) 898-0087
+Tim Chauvel Public Participation Specialist Cal-EPA/Dept. of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630	Daytime (714) 484-5487 FAX (714) 484-5329
+Viola Cooper (SFD-3) Community Involvement Coordinator U.S. EPA, Region 9 75 Hawthorne Street San Francisco, CA 94105	Daytime (800) 231-3075 or (415) 972-3243
Chris Crompton 10852 Douglass Road Anaheim, CA 92806 Group Affiliation: County of Orange, Environmental Management Agency	Daytime (714) 567-6360 FAX (714) 567-6340
Roy Herndon 10500 Ellis Avenue Fountain Valley, CA 92708-8300 Group Affiliation: Orange County Water District	Daytime (714) 378-3260 Home (714) 551-5415 FAX (714) 378-3373

Peter Hersh
24152 Las Naranjas Drive
Laguna Niguel, CA 92677
Group Affiliation: Community Member

Phone: (949) 495-5066

Gregory F. Hurley, Esq.
GT
18300 Von Karmen, Suite 850
Irvine, CA 92612
Group Affiliation: Community Member

Daytime (949) 252-8801
FAX (949) 252-8805

Dan Jung
P.O. Box 19575
Irvine, CA 92606
Group Affiliation: City of Irvine, Director of Strategic Programs, City Manager's Office

Daytime (949) 724-6424
FAX (949) 724-6045

Tayseer Mahmoud
Office of Military Affairs
Cal-EPA/Dept. of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Daytime (714) 484-5419
FAX (714) 484-5437

Steve Malloy
15600 Sand Canyon Avenue
Irvine, CA 92618
Group Affiliation: Irvine Ranch Water District

Daytime (949) 453-3370
FAX (949) 453-0228

Roland Marquis
24971 Owens Lake Circle
Lake Forest, CA 92630
Group Affiliation: Community Member

Daytime (714) 821-2911
FAX (714) 821-2112
Home (949) 699-2713

Suzanne Marquis
24971 Owens Lake Circle
Lake Forest, CA 92630
Group Affiliation: Community Member

Daytime (714) 821-2911
FAX (714) 821-2112
Home (949) 699-2713

Mary Aileen Matheis
73 Nighthawk
Irvine, CA 92604
Group Affiliation: Board Member of Irvine Ranch Water District

Daytime (949) 474-7368
Home (949) 551-0567

Fred J. Meier
1517 E. Beechwood Street
Santa Ana, CA 92705
Group Affiliation: Community Member, American Society of Civil Engineers, Life Member Committee,
Infrastructure Advisory Committee

Daytime (714) 550-7551
Home (714) 547-1450
FAX (714) 550-7551

SENSITIVE

REVISED – April 2004

Nicole Moutoux (SFD-H-8) Daytime (415) 972-3012
U. S. Environmental Protection Agency FAX (415) 947-3518
Region 9
75 Hawthorne Street
San Francisco, CA 94105

RAB Marine Corps/Navy Co-Chair

Andy Piszkin El Toro (949) 726-5398
BRAC Environmental Coordinator FAX (949) 726-6586
Base Realignment and Closure, Environmental Div.
P.O. Box 51718 San Diego (619) 532-0784
Irvine, CA 92619-1718 FAX (619) 532-0780

Gail Reavis Daytime (949) 461-0020
21281 Astoria FAX (949) 461-0064
Mission Viejo, CA 92692
Group Affiliation: Community Member, President, Palmia Anti-airport Coalition,
City Councilperson for Mission Viejo

Marcia Rudolph Daytime (949) 770-9555
24922 Muirlands #139 Home (949) 830-9816
Lake Forest, CA 92630 FAX (949) 830-4698
Group Affiliation: Community Member, City Councilperson for Lake Forest

Steven Sharp Daytime (714) 667-3623
2009 East Edinger Avenue FAX (714) 972-0749
Santa Ana, CA 92705
Group Affiliation: Environmental Health Division, Orange County Health Care Agency

Jerry B. Werner Daytime (949) 859-1322
2391 Via Mariposa #1D Home (949) 859-1322
Laguna Woods, CA 92653
Group Affiliation: Community Member, Laguna Woods/Leisure World

RAB Community Co-Chair (re-elected on 1/28/04, 2nd one-year term)

Bob Woodings Daytime (949) 461-3481
25550 Commercecentre Drive, Suite 100 FAX (949) 461-3512
Lake Forest, CA 92630
Group Affiliation: Director of Public Works, City of Lake Forest

Donald E. Zweifel Home (714) 993-4085
386 Hawaii Way FAX (714) 993-4085
Placentia, CA 92870
Group Affiliation: Community Member, Exec. Dir., Gulf & Vietnam Vets Historical Assn.

+ Not RAB member but included on RAB member list.

MCAS El Toro

Installation Restoration Program

MAILING LIST REQUEST COUPON

If you would like to be on the mailing list to receive information about environmental restoration activities at MCAS El Toro, please complete the coupon below. You may mail or fax it, or use the e-mail option. If you chose to send you mailing list request via e-mail, please include the information requested in the coupon.

Base Realignment and Closure
Attn: Ms. Marge Flesch
7040 Trabuco Road
Irvine, CA 92618

FAX – (949) 726-6586

E-mail – marge.flesch@navy.mil

- Add me to the MCAS El Toro Installation Restoration Program mailing list.
- Send me information on Restoration Advisory Board membership.

Name _____

Street _____

City _____ State _____ Zip Code _____

Affiliation (optional) _____

Telephone _____

SENSITIVE RECORD

**PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
AND ARE NOT AVAILABLE FOR PUBLIC VIEWING**

**E-MAIL ADDRESS AND PHONE NUMBER OF
PRIVATE CITIZEN**

FOR ADDITIONAL INFORMATION, CONTACT:

**DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132**

**TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil**

MCAS El Toro Installation Restoration Program

BRAC Cleanup Team (BCT) Members* and Key Project Representatives

Lead Agency

Mr. Andy Piszkin*
 BRAC Environmental Coordinator
 Base Realignment and Closure
 Environmental Division
 MCAS El Toro
 7040 Trabuco Road
 Irvine, CA 92618
 (949) 726-5398 or (619) 532-0784
frank.piszkin@navy.mil (new email address)



For More Information

Administrative Record (AR): the collection of reports and documents used in the selection of cleanup or environmental management alternatives. Anyone is welcome to review AR file documents at MCAS El Toro, BRAC Office, N. 7th Street, Building 83. To schedule an appointment call Ms. Marge Flesch at (949) 726-5398, Monday-Thursday, 7:00 a.m. to 3:00 p.m.

Information Repository (IR): copies of reports, documents and other environmental information are available for public review.

Heritage Park Regional Library
 14361 Yale Avenue, Irvine, CA
 (949) 551-7151
 Monday-Thursday – 10 am-9 pm
 Friday-Saturday – 10 am-5 pm
 Sunday – 12 pm-5 pm

Federal Representatives

Ms. Nicole Moutoux*
 Project Manager
 U.S. EPA Region IX
 75 Hawthorne Street (SFD-H-8)
 San Francisco, CA 94105
 (415) 972-3012
moutoux.nicole@epamail.epa.gov

Ms. Viola Cooper
 Community Involvement Coordinator
 Superfund Division
 75 Hawthorne Street (SFD-3)
 San Francisco, CA 94105
 U.S. EPA, Region IX
 (415) 972-3243 or (800) 231-3075
cooper.viola@epamail.epa.gov

Restoration Advisory Board Point-of-Contacts

Mr. Bob Woodings
 RAB Community Co-Chair
 (949) 461-3481
bwoodings@ci.lake-forest.ca.us

Ms. Marcia Rudolph
 RAB Subcommittee Chair
 (949) 830-9816
Rudolphm@earthlink.net

State Representatives

Mr. Tayseer Mahmoud*
 Project Manager, Cal/EPA Dept. of Toxic
 Substances Control (DTSC)
 5796 Corporate Avenue
 Cypress, CA 90630
 (714) 484-5419
tmahmoud@dtsc.ca.gov

Mr. John Broderick*
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 Quality Control Board (RWQCB)
 3737 Main Street, Suite 500
 Riverside, CA 92501-3338
 (909) 782-4494
jbroderic@rb8.swrcb.ca.gov

Mr. Tim Chauvel
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 5796 Corporate Avenue
 Cypress, CA 90630
 (714) 484-5487
tchauvel@dtsc.ca.gov

Revised – March. 2004

Internet Access Environmental Web Sites

Southwest Division Naval Facilities Engineering Command Web Site:

<http://www.efdsw.navfac.navy.mil/environmental/envhome.htm>

Department of Defense - Environmental Web Page:

<http://www.dtic.mil/envirodod/>

U.S. EPA:

www.epa.gov (homepage)

www.epa.gov/superfund/ (Superfund)

www.epa.gov/ncea (National Center for Environmental Assessment)

www.epa.gov/federalregister (Federal Register Environmental Documents)

Cal/EPA:

www.calepa.ca.gov (homepage)

www.dtsc.ca.gov (Department of Toxic Substances Control)

www.dhs.ca.gov (Department of Health Services)

www.swrcb.ca.gov/ (Santa Ana Regional Water Quality Control Board)

U.S. EPA

Federal Register Environmental Documents

Endangered and Threatened Wildlife and Plants Proposed Designation of Critical Habitat for the Riverside Fairy Shrimp

Visit the web site below:

www.epa.gov/fedrgstr/EPA-IMPACT/2004/April/Day-27/i9203.htm

This web site contains a 42-page document that proposes critical habitat area in Los Angeles, Orange, Riverside, San Diego and Ventura Counties.

Glossary of Technical Terms

Air Stripping: A treatment technology that transforms VOCs in groundwater to gas for removal and treatment.

Aquifer: A particular zone or layer of rock or soil below the earth's surface through which groundwater moves in sufficient quantity to serve as a source of water.

Cleanup Goals: Chemical concentration levels that are the goals of the remedial action. Once the cleanup goals have been achieved, the remedy is considered protective of human health and the environment.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): Commonly known as the Superfund. This law authorizes EPA to respond to past hazardous waste problems that may endanger public health and the environment. CERCLA was authorized and amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

Domestic Use: Use of water for drinking, cooking, and bathing.

Downgradient: Groundwater that is downstream of an area of soil or groundwater contamination.

Extraction Wells: Wells used to pump groundwater to the surface for treatment or for use.

Feasibility Study (FS): An analysis of cleanup or remedial alternatives to evaluate their effectiveness and to enable selection of a preferred alternative.

Federal Facility Agreement: A voluntary agreement entered into by the Navy, U.S. EPA, and Cal-EPA (Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board (RWQCB)) establishing an overall framework for how the investigation and cleanup of MCAS El Toro is to be conducted.

Groundwater: Underground water that fills pores in soil or openings in rocks.

Infiltration: Process by which dissolved chemical constituents are carried by water through the soil.

Intermediate Zone: A generally low permeability layer that separates that shallow groundwater unit from the principal aquifer at MCAS El Toro.

Maximum Contaminant Levels (MCLs): The maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs are enforceable standards.

Maximum Contaminant Level Goal: A non-enforceable concentration of a drinking-water contaminant, set at a level at which no known adverse effects on human health occur.

Monitored Natural Attenuation: Refers to the routine sampling and testing of groundwater to assess the cleanup effectiveness of natural attenuation processes.

Monitoring Well: Wells drilled at specific locations either on or near a hazardous waste site, for the purpose of determining direction of groundwater flow, types and concentrations of contaminants present, or vertical or horizontal extent of contamination.

Natural Attenuation: The process by which a compound is reduced in concentration over time, through adsorption, degradation, dilution, and/or transformation.

Nitrates: Compounds containing nitrogen which dissolve in water and may have harmful effects on humans and animals. Nitrates are commonly used in fertilizers.

Operable Unit (OU): Term for each of a number of separate activities undertaken as part of a Superfund site cleanup.

Plume: A three-dimensional zone within the groundwater aquifer containing contaminants that generally move in the direction of, and with, groundwater flow.

Principal Aquifer: The main (regional) water-bearing aquifer in the vicinity of MCAS El Toro.

Rebound: The tendency of soil gas concentrations to increase after SVE is turned off.

Record of Decision (ROD): A public document that explains what cleanup alternative will be used at a specific NPL site. The ROD is based on information and technical analysis generated during the remedial investigation/feasibility study and consideration of public comments and community concerns.

Remedial Action (RA): The actual construction or implementation phase that follows the remedial design of the selected cleanup alternative at a Superfund site.

Remedial Design (RD): The design of the selected cleanup alternative for a Superfund site.

Remedial Investigation (RI): One of the two major studies that must be completed before a decision can be made about how to clean up a Superfund site. (The FS is the second major study.) The RI is designed to determine the nature and extent of contamination at the site.

Shallow Groundwater Unit: The shallowest water-bearing zone beneath MCAS El Toro.

Soil Gas: Gas found in soil pore space. In contaminated areas, soil gas may include VOCs.

Soil Vapor Extraction (SVE): A process whereby contaminated soil gas is brought to the surface for treatment.

Trichloroethene (TCE): A volatile organic compound that has been widely used as an industrial solvent. TCE is a colorless, odorless liquid that, when inhaled or ingested in large amounts, can cause irritation of the nose, throat, and eyes, nausea, blurry vision, or dermatitis. EPA has classified TCE as a "probable human carcinogen."

Total Dissolved Solids (TDS): Used to reflect salinity of groundwater.

Upgradient: Groundwater that is upstream of an area of soil or groundwater contamination.

Volatile Organic Compound (VOC): An organic (carbon containing) compound that evaporates readily at room temperature. VOCs are commonly used in dry cleaning, metal plating, and machinery degreasing operations.

Water Quality Standards: State-adopted and U.S. EPA-approved ambient standards for water bodies. The standards cover the use of the water body and the water quality criteria which must be met to protect the designated use or uses.



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

JAN 23 2004

Dear RAB or TRC Member:

The Department of Defense (DoD) understands that communication and cooperation with stakeholders is fundamental to the success of its Defense Environmental Restoration Program (DERP). As such, it is DoD's policy to involve communities in the environmental restoration process through Restoration Advisory Boards (RABs), Technical Review Committees (TRCs), and other public involvement opportunities. The partnerships developed through RABs and TRCs have expedited DoD's fulfillment of its environmental restoration requirements, installation by installation.

DoD has developed a draft proposed rule regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs. DoD proposes this rule in response to 10 U.S.C. § 2705(d)(2)(A), which requires the Secretary of Defense to develop regulations regarding RABs. The proposed regulations are based on DoD's current policies for establishing and operating RABs, as well as DoD's experience working with RABs.

DoD is sending this draft proposed rule to the co-chairs of the 299 RABs and 29 other advisory committees it supports at active and closing installations and formerly used defense sites. As you are a RAB or TRC co-chair and an active participant in the DERP, we would like to extend to you and the other members of your RAB or TRC an opportunity to review this draft proposed rule prior to its publication for public comment in the *Federal Register*. If you or any other members of your RAB or TRC would like to comment on the rule, you may submit comments to us anytime from now until the end of the official 60-day public comment period, which will begin when the proposed rule is published in the *Federal Register*. We anticipate publishing the proposed rule in the next few months.

If you would like to submit comments, please submit them electronically through the Web at www.denix.osd.mil/rabrul or via electronic mail (e-mail) to Patricia.Ferrebee@osd.mil. Comments may also be mailed to Ms. Patricia Ferrebee, Office of the Deputy Under Secretary of Defense (Environmental Management), 3400 Defense Pentagon, Washington, DC 20301-3400. Questions may also be directed to Ms. Ferrebee by telephone at 703/695-6107.

Sincerely,

Mr. Patrick Meehan, Jr.
Director, Environmental Management

Enclosure: As Stated



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The documents here are draft, not for implementation by the DoD Components, and are posted for evaluation, discussion, and comment only.

The Office of the Secretary of Defense for Environmental Management is seeking early comment from members of RABs and TRCs around the country on the draft Restoration Advisory Board (RAB) proposed rule. The draft proposed rule was sent to the co-chairs of the 299 RABs and 29 other advisory committees. Department of Defense (DoD) supports at active and closing installations and formerly used defense sites. Following this special early comment period, DoD will publish this document as a proposed rule in the Federal Register; it will then be officially open for public comment for the following 60 days.

The DoD understands that communication and cooperation with stakeholders is fundamental to the success of its Defense Environmental Restoration Program (DERP). It is DoD's policy to involve communities in the environmental restoration process, through RABs, Technical Review Committees (TRCs), and other public involvement venues. The partnerships developed through RABs and TRCs have expedited DoD's fulfillment of its environmental restoration requirements, installation by installation.

DoD has developed this draft proposed rule regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs. DoD proposes this rule in response to 10 U.S.C. § 2705(d)(2)(A), which requires the Secretary of Defense to develop regulations governing RABs. The proposed regulations are based on DoD's current policies for establishing and operating RABs, as well as DoD's experience working with RABs.

Members of DoD RABs and TRCs are invited to read the draft proposed rule sent to your co-chair and provide comments through this Web site. Thank you for participating in DoD's stakeholder involvement effort.

If you would like to submit comments, please submit them electronically through this Web site or via electronic mail (e-mail) to Patricia.Ferrebee@osd.mil. Comments may also be mailed to:

Ms. Patricia Ferrebee
Office of the Deputy Under Secretary of Defense (Environmental Management)
3400 Defense Pentagon
Washington, DC 20301-3400

This address must be used when submitting input by U.S. Postal Service Express mail or any commercial mail delivery service. Questions may also be

directed to Ms. Ferree by telephone at 703/695-6107. We encourage you to share this draft proposed rule with other interested stakeholders.

RABs and TRCs Provide Early Comment to the Draft RAB Rule Online | Other Relevant Documents

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Defense Environmental Network & Information eXchange (DENIX)

DRAFT Revised
Proposed RAB Rule

January 2004

Department of Defense Restoration Advisory Boards (RABs)

AGENCY: Department of Defense, Office of the Deputy Under Secretary of Defense (Installations and Environment), DoD.

ACTION: Proposed rule.

SUMMARY: The Department of Defense (DoD) requests public comment on these proposed regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of Restoration Advisory Boards (RABs). DoD has proposed these regulations in response to 10 U.S.C. § 2705(d)(2)(A), which requires the Secretary of Defense to prescribe regulations regarding RABs.

The purpose of a RAB is to facilitate public participation in DoD environmental restoration activities at active and closing DoD installations and formally used defense sites where local communities express interest in such activities. The proposed regulations are based on DoD's current policies for establishing and operating RABs, as well as DoD's experience over the past eight years in using RABs.

DATES: Comments on this proposed rule must be submitted on or before DATE TBD.

ADDRESSES: Comments on this proposal should be sent to the following address:

Office of the Assistant Deputy Under Secretary of Defense
(Installations and Environment)
3400 Defense Pentagon
Washington, DC 20301-3400

The public must send the original, and (whenever possible) a 3.5-inch computer disk containing comments in a common word processing format such as Microsoft Word. Public comments will also be collected via the Defense Environmental Network and Information eXchange (DENIX), located at the following Web site: TBD.

FOR FURTHER INFORMATION CONTACT:

Ms. Patricia Ferrebee, Office of the Deputy Under Secretary of Defense (Installations and Environment), at (703) 695-6107.

SUPPLEMENTARY INFORMATION:

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I. Authority

These regulations are proposed under the authority of section 2705 of title 10, United States Code (U.S.C.).

II. Background

The Defense Environmental Restoration Program (DERP) was established in 1986 to "carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary." Goals of the program include: "(1) identification, investigation, research and development, and cleanup of contamination from hazardous substances, and pollutants and contaminants. (2) Correction of other environmental damage (such as detection and disposal of unexploded ordnance) which creates an imminent and substantial endangerment to the public health or welfare or to the environment. (3) Demolition and removal of unsafe buildings and structures, including buildings and structures of the Department of Defense at sites formerly used by or under the jurisdiction of the Secretary." (10 U.S.C. § 2701) DoD conducts these activities at active and closing Department of Defense (DoD) installations and formerly used defense sites (FUDS). DoD created distinct programs within the DERP to address sites environmentally impacted by DoD's past activities. The Installation Restoration program (IRP) established in 1986 covers environmental restoration activities to address hazardous substances, pollutants, and contaminants. In September 2001, DoD established the Military Munitions Response program (MMRP) to manage cleanup of unexploded ordnance, discarded military munitions, and munitions constituents at areas other than operational ranges. The Building Demolition/Debris Removal (BD/DR) program category addresses the demolition and removal of unsafe buildings and structures at facilities or sites that are or were owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense.

During the early years of the DERP, the Office of the Secretary of Defense (OSD) managed the Defense Environmental Restoration Account (DERA) for the Department's Military Components—the Army, Navy, Air Force, Defense Logistics Agency (DLA), and Defense Threat Reduction Agency (DTRA)—who execute environmental restoration activities at their respective installations. In 1996, DoD decided to separate, or devolve, DERA into five Environmental Restoration (ER) accounts to better align each Military Component's DERP responsibilities and accountability for environmental cleanup efforts. Policy direction and oversight of the DERP is the responsibility of the Office of the Deputy Under Secretary of Defense (Installations and Environment). The DoD Military Components are responsible for program implementation. The Army, Navy, and Air Force manage their own ER accounts. The U.S. Army Corps of Engineers manages the FUDS program for the Army, the Department's designated executive agent for FUDS. The FUDS program addresses environmental impacts on properties DoD once owned, leased, or operated and were under the jurisdiction of the Secretary of Defense. The final ER account, the Defense-Wide account, funds cleanup programs for DLA and DTRA in addition to providing the operating funds for OSD's oversight of the DERP. While DoD manages environmental restoration at Base Realignment and Closure (BRAC) installations as part of the DERP, it funds these environmental restoration activities through a separate BRAC Program account, which is part of DoD's overall Military Construction appropriation.

DoD recognizes the importance of public involvement at military installations. For the purposes of this proposed rule, the term installation means operating and closing DoD installations and FUDS that require environmental restoration. DoD has developed community involvement policies to ensure that local communities are provided the opportunity as early as possible to obtain information about, and provide input to, the decisions regarding the environmental

restoration activities at military installations. It is DoD policy to provide the public an opportunity to participate through the establishment of RABs, among other public involvement opportunities.

Based on statutory and regulatory requirements for community involvement and recommendations from the Federal Facilities Environmental Restoration Dialogue Committee (FFERDC), DoD has strengthened its community involvement efforts, including the RAB initiative, under its environmental restoration program. DoD believes that working in partnership with local communities and addressing the concerns of those communities early in the restoration process has enhanced its efforts under, and increased the credibility of, the environmental restoration program. DoD remains committed to involving communities neighboring its installations in environmental restoration decision processes that may affect human health, safety, and the environment. RABs have become a significant component of DoD's efforts to increase community involvement in DoD's environmental restoration program. RABs provide a continuous forum through which members of affected communities can provide input to an installation's ongoing environmental restoration activities. Although RABs provide advice and recommendations regarding environmental restoration to DoD, RABs are not Federal Advisory Committees and are specifically excluded from the requirements of the Federal Advisory Committee Act (10 U.S.C. § 2705(d)(2)).

On September 27, 1994, DoD and the Environmental Protection Agency (EPA) jointly issued guidelines for the formation and operation of RABs ("Restoration Advisory Board Implementation Guidelines"). The guidelines describe how to implement the DoD RAB policy and identify each stakeholder's role with the RAB. The guidelines also state that existing Technical Review Committees (TRCs) or similar groups may be expanded or modified to become RABs, and that RABs may fulfill the statutory requirements for establishing TRCs (10 U.S.C. § 2705 (d)(1) grants DoD the authority to establish RABs instead of TRCs at installations undergoing environmental restoration).

As of September 30, 2002, DoD reported the existence of 299 active RABs across all of the Military Components' installations. Over the past several years, the number of RABs has remained fairly consistent, although the number fluctuates as some RABs adjourn and others form. RABs are one part of DoD's and the Military Components' extensive community outreach and public participation activities, which include compliance with the public notice and participation requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), and other federal and state environmental laws as well as considerable consultation with our partners at federal, state, and local environmental and resource agencies. A RAB, however, may address only issues associated with environmental restoration activities under the DERP at DoD installations, including activities conducted under the MMRP category of the DERP to address unexploded ordnance, discarded military munitions, and the chemical constituents of munitions. If a RAB already exists at an installation and MMRP sites are identified, the RAB may be expanded to consider additional issues related to the MMRP sites. If the current RAB or DoD installation decides that it is necessary to involve new stakeholders, the installation should notify potential stakeholders of its intent to expand the RAB and solicit new members who have an interest in issues related to the MMRP. If there is no current RAB active at the installation and MMRP sites are identified, the installation will follow the prescribed guidance for determining sufficient community interest in forming a RAB.

The Secretary of Defense is required to "prescribe regulations regarding the establishment, characteristics, composition, and funding of restoration advisory boards" (10 U.S.C. § 2705(d)(2)(A)). DoD's issuance of regulations is not, however, a precondition to the establishment of RABs (10 U.S.C. § 2705(d)(2)(B)). Therefore, DoD proposes these regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs. DoD recognizes that each RAB established will be a unique organization dealing with installation-specific issues. This proposal, developed consistent with the recommendations set forth in the FFERDC's Final Report, is consistent with existing DoD and EPA policy on RABs, and reflects over eight years of experience in establishing and operating RABs throughout the United States. DoD has structured this proposal to maximize flexibility for RAB members and installations nationwide.

III. Summary of the Proposed Rule

DoD is requesting public comment on these proposed regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs. This section of the preamble provides a summary of the proposed regulations in 32 CFR Part 202.

A. General Requirements

In this section of the proposed rule, DoD discusses the purpose, scope, relevant definitions, and applicability of the proposed regulations for RABs. DoD is required by 10 U.S.C. § 2705(d)(2)(A) to issue regulations concerning the establishment, characteristics, composition, and funding of RABs. When issued as a final rule, the regulations will apply to all RABs, regardless of when they were established.

In this proposal, DoD defines the purposes of a RAB as follows:

- Provide an expanded opportunity for stakeholder involvement in the environmental restoration process at DoD installations.
- Act as a forum for the discussion and exchange of restoration program information among DoD, regulatory agencies, and the community.
- Provide an opportunity for RAB members to review progress and participate in a dialogue with the installation's decision makers concerning environmental restoration matters. Installations will listen and give meaningful consideration to the recommendations provided by the individual RAB members. While a RAB will complement other community involvement efforts the installation undertakes concerning environmental restoration, a RAB does not replace other types of community outreach and participation activities required by applicable federal and state laws.

A RAB may address only issues associated with environmental restoration activities under the DERP at DoD installations. Environmental groups or advisory boards that address issues other than environmental restoration activities are not governed by this regulation.

The Office of the Deputy Under Secretary of Defense for Installations and Environment will issue guidance regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs pursuant to this rule. The issuance of the guidance is not a precondition to the establishment of RABs or the implementation of this rule.

This section of the proposed rule also discusses the criteria for establishment, notification of the formation, and composition of a RAB.

B. Operating Requirements

In this section of the proposed rule, DoD establishes basic requirements for the operation of a RAB. DoD proposes that each RAB will have a mission statement that describes its overall purpose and goals. DoD also specifies certain requirements regarding the selection process for co-chairs.

DoD proposes that each RAB will develop a set of operating procedures. Areas that may be addressed in the procedures include: clearly defined goals and objectives for the RAB, as determined by the DoD installation co-chair in consultation with the RAB; development and approval procedures for the RAB meeting minutes; attendance of members at meetings; meeting frequency and location; rules of order; frequency and procedures for conducting training; procedures for selecting, adding, or removing RAB members and co-chairs; specifics on the size of the RAB membership and the length of service for RAB members and co-chairs; methods for resolving disputes; processes for reviewing and responding to public comments on issues being addressed by the RAB; procedures for public participation in RAB activities; and keeping the public informed about RAB proceedings.

DoD is not proposing specific requirements concerning the conduct of RAB meetings because the meeting format of each RAB will vary and be dictated by the needs of the participants. DoD proposes, however, that all RAB meetings be open to the public; the installation will provide timely notice of each meeting in a local newspaper of general circulation; each RAB meeting will be held at a reasonable time and in a manner or place reasonably accessible to and usable by persons with disabilities; the installation will prepare detailed meeting minutes of the RAB meetings; and the meeting minutes and other relevant documents will be available for public inspection and copying at a single, publicly accessible location. Additionally, the installation will document information on the activities of a RAB in the information repository.

In this section of the proposed rule, DoD also establishes requirements for adjourning a RAB. An Installation Commander may adjourn a RAB when there is no longer a need for a RAB or when community interest in the RAB declines. For FUDS, the Installation Commander may be the District Commander or equivalent.

Although Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as efficiently as possible, circumstances may prevent a RAB from operating efficiently or fulfilling its intended purpose. When this occurs, the Installation Commander will make a concerted attempt to resolve the issues that affect the RAB's effectiveness. If unsuccessful, the Installation Commander may elect to dissolve the RAB. The Installation Commander should discuss dissolution with regulators and the community as a whole before making a final decision. This section of the rule provides guidelines for how an Installation Commander may elect to dissolve a RAB.

In this section of the proposed rule, DoD sets forth requirements for adjourning a RAB, adjournment procedures, dissolving a RAB, dissolution procedures, reestablishing an adjourned or dissolved RAB, and public comment.

C. Administrative Support, Funding, and Reporting Requirements

In this section of the proposed rule, DoD sets forth requirements regarding administrative support for establishing, operating, and adjourning a RAB, funding for administrative support, and reporting requirements regarding the activities and administrative expenses associated with RABs.

The Installation Commander, or if there is no such Commander, an appropriate DoD official, is authorized to pay for routine administrative expenses of a RAB established at an installation (10 U.S.C. § 2705(d)(3)). To implement this provision, this proposed rule requires that the installation provide administrative support to establish and operate a RAB, subject to the availability of funds. The scope of this support corresponds to those activities that are eligible for DoD funding, including:

- RAB establishment
- Membership selection
- Training that meets certain criteria
- Meeting announcements
- Meeting facility, including accommodations necessary to comply with the Americans with Disabilities Act
- Meeting facilitators, including translators
- Meeting materials and minutes preparation
- RAB-member mailing list maintenance and RAB materials distribution
- RAB adjournment.

The Secretaries of the Military Departments will make funds available for RAB administrative expenses (10 U.S.C. § 2705(g)), subject to appropriations. The proposed rule establishes these requirements and specifies that active installations should pay for RAB administrative expenses using funds from their Military Component's ER accounts. The ER-FUDS fund is used to pay for RAB administrative expenses at FUDS. At BRAC installations, BRAC funds are used to pay for RAB administrative expenses.

This section of the rule also discusses the opportunities for the RAB to obtain technical assistance to facilitate members' understanding of the scientific and engineering issues underlying environmental restoration activities through DoD's Technical Assistance for Public Participation (TAPP) program. The DoD installation may also provide in-house assistance to discuss technical issues.

DoD is required to report annually to Congress on the activities of Technical Review Committees (TRCs) and RABs (10 U.S.C. § 2706(a)(2)(J)). In order to fulfill this requirement, this proposed rule requires that the installation at which a RAB has been established document the activities of the RAB and track expenditures for administrative expenses of the RAB. This proposed rule does not prescribe specific procedures for the installation to follow as part of DoD's information collection when reporting to Congress. Rather, DoD will rely on existing internal reporting mechanisms within the Department and Military Components to collect this information annually.

IV. Section-by-Section Analysis of the Proposed Rule

This section of the preamble presents an analysis of each section of the proposed rule.

A. General Requirements

1. Purpose, Scope, Definitions, and Applicability

a. Purpose. The purpose of this part is to establish regulations regarding the characteristics, composition, funding, and establishment of RABs, as required by 10 U.S.C. § 2705(d)(2)(A), and the operation, adjournment, and dissolution of RABs.

b. Purpose and Scope of Responsibilities of a RAB. DoD is proposing the purposes of a RAB be:

- To provide an expanded opportunity for stakeholder involvement in the environmental restoration process at DoD installations. DoD considers "stakeholders" to be parties that are actually or potentially affected by environmental restoration activities at an installation.
- To act as a forum for the discussion and exchange of restoration program information between DoD, regulatory agencies, and the community.
- To provide an opportunity for RAB members to review progress and participate in a dialogue with the installation's decision makers concerning environmental restoration matters. Installations will listen and give meaningful consideration to the recommendations provided by individual RAB members. Consensus is not a prerequisite for RAB member recommendations.

A RAB may address only issues associated with environmental restoration activities under the DERP at DoD installations. Environmental groups, advisory boards, or other entities that address issues other than environmental restoration activities are not RABs.

This proposed rule does not list specific responsibilities of RAB members, but DoD considers the following types of activities within the scope of RAB members' functions:

- Providing advice to the installation, EPA, state regulatory agency, and other government agencies on restoration activities and community involvement.
- Addressing important issues related to restoration, such as the scope of studies, cleanup levels, waste management, and remedial action alternatives.
- Reviewing and evaluating documents associated with environmental restoration activities, such as plans and technical reports.
- Identifying environmental restoration projects to be accomplished in the next fiscal year and beyond.
- Recommending priorities among sites or projects.
- Attending regular meetings that are open to the public and scheduled at convenient times and locations.
- Interacting with the local redevelopment authority (LRA) or other land use planning bodies to discuss future land use issues relevant to environmental restoration decision making.

- Providing feedback to other community members on RAB activities and share community concerns and input with the RAB.

By establishing a RAB, DoD hopes to ensure that interested stakeholders have a voice and can actively participate in a timely and thorough manner in the planning and implementation of the environmental restoration process. A RAB will serve as one method for the expression and careful consideration of diverse points of view. Installations will listen and give meaningful consideration to all advice provided by individual members.

DoD proposes that each installation undergoing environmental restoration activities establish a RAB where there is sufficient and sustained community interest. Where TRCs or similar advisory groups already exist, the TRC or similar advisory group will be considered for conversion to a RAB, provided there is sufficient and sustained interest within the community. DoD will recognize only one RAB or TRC per installation.

c. Definitions. In this section:

- *Installation* will include active and closing Department of Defense (DoD) installations and formerly used defense sites (FUDS).
- *Installation Commander* will include the Commanding Officer of an installation; the Installation Commander or other Military Department officials who close the facility and are responsible for its disposal at BRAC installations; or the U.S. Army Corps of Engineers Project Management District Commander at FUDS properties.
- *Tribes* means any federally recognized American Indian and Alaska Native government as defined by the most current Department of Interior/Bureau of Indian Affairs list of tribal entities published in the Federal Register pursuant to Section 104 of the Federally Recognized Tribe Act.
- *RAB adjournment* means when an Installation Commander, in consultation with the EPA, state, tribes, RAB members, and the local community, as appropriate, closes the RAB based on a determination that there is no longer a need for a RAB or when community interest in the RAB declines sufficiently.
- *RAB dissolution* means when an Installation Commander disbands a RAB that is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental cleanup projects. Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as efficiently as possible and a concerted attempt to resolve issues that affect the RAB's effectiveness. There are circumstances, however, that may prevent a RAB from operating efficiently or fulfilling its intended purpose.

d. Other Public Involvement Activities. RABs are one part of DoD and the Military Components' extensive community outreach and public participation activities, which include compliance with the public notice and participation requirements of CERCLA, RCRA, and other federal and state environmental laws, as well as considerable consultation with our partners at federal, state, and local environmental and resource agencies.

e. Applicability of Regulations to Existing RABs. DoD is proposing these regulations regarding the establishment, characteristics, composition, and funding of RABs (10 U.S.C. § 2705(d)(2)(A)) to formalize current Department policy. DoD intends that the final regulations will apply to all RABs, including RABs established prior to the effective date of the final rule. DoD does not consider that applying final regulations to RABs already established will pose any additional requirements or conflict because the proposed regulations are based on existing DoD policy that has been implemented since September 1994.

f. **Guidance.** The Office of the Assistant Deputy Under Secretary of Defense for Environment will issue guidance regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs pursuant to this rule. The issuance of the guidance is not a precondition to the establishment of RABs or the implementation of this rule.

2. Criteria for Establishment

a. **Determining if Sufficient Interest Warrants Establishing a RAB.** In this rule, RABs may only be established at installations undergoing environmental restoration. There may be only one RAB per installation. In accordance with existing policy, DoD proposes that a RAB be established when the Installation Commander finds sufficient and sustained community interest and any of the following criteria are met:

- The closure of an installation involves the transfer of property to the community;
- At least 50 local citizens petition for a RAB;
- Federal, state, tribal, or local government representatives request formation of a RAB; or
- The installation determines the need for a RAB.

To clarify how an installation will determine the need for a RAB, DoD proposes that the Installation Commander determine the level of interest within the community for establishing a RAB by:

- Reviewing correspondence files;
- Reviewing media coverage;
- Consulting community members;
- Consulting relevant government officials; and
- Evaluating responses to notices placed in local newspapers.

At the majority of installations that have an environmental restoration program, DoD expects that local communities will be interested in forming a RAB. DoD notes that installation efforts to identify the level of community interest in establishing a RAB should not be limited to a one-time assessment of the criteria discussed above. Only one RAB, however, will be recognized per installation. If a RAB already exists at an installation and there will be MMRP sites, the RAB may be expanded to consider issues related to the MMRP sites. If the current RAB or DoD installation decides that it is necessary to involve new stakeholders, the installation should notify potential stakeholders of its intent to expand the RAB and solicit new members who have an interest in issues related to the MMRP.

Where RABs are not formed initially, installations should reassess community interest at least every 24 months. Where the reassessment finds sufficient and sustained community interest, the installation should establish a RAB. Where the reassessment does not find sufficient and sustained community interest in a RAB, the installation will document, in a memorandum for the Administrative Record, the procedures followed in the reassessment and the findings of the reassessment.

b. **Responsibility for Forming and Operating a RAB.** Once the installation determines that a RAB must be established, DoD proposes that the Installation Commander have the lead responsibility for forming and operating the RAB. The Installation Commander should have lead

responsibility because the RAB will be an integral part of the installation's community involvement and outreach programs. The Installation Commander may also designate his or her duties to appropriate personnel but retains oversight authority and responsibility. DoD recommends that installations involve, as appropriate, EPA, and state, tribal, and local governments in all phases of RAB planning and operation.

c. **Converting Existing Technical Review Committees (TRCs) to RABs.** Before the implementation of RABs, TRCs were established at DoD installations to provide interested parties with a forum to discuss and provide input into environmental restoration activities. In accordance with 10 U.S.C. § 2705(d)(1), a RAB fulfills the requirements of 10 U.S.C. § 2705(c), which directs DoD to establish TRCs. DoD recommends that, where TRCs or similar advisory groups already exist, provided there is sufficient and sustained interest within the community for a RAB, the TRC or similar advisory group should be considered for conversion to a RAB.

RABs expand the TRC initiative in the following ways: (1) RABs involve a greater number of community members than TRCs, thereby better incorporating the diverse needs and concerns of the community directly affected by environmental restoration activities; and (2) chairmanship of the RAB is shared between the installation and community, promoting partnership and meaningful consideration of the community's concerns in the decision-making process.

In order to convert a TRC to a RAB, DoD should increase community representation, evaluate and ensure the diversity of community representation, add a community co-chair, and open meetings to the public.

3. Notification of Formation of a RAB

a. **Public Notice and Outreach.** Prior to establishing a RAB or converting a TRC to a RAB, DoD proposes that an installation notify potential stakeholders of its intent to form a RAB. In announcing the formation of a RAB, the installation should describe the purpose of a RAB and discuss membership opportunities.

DoD recommends that every effort be made to ensure that a broad spectrum of individuals or groups representing the community's interests are informed about the RAB, its purposes, and membership opportunities. In some cases, it may be necessary that the installation directly solicit some groups or organizations, particularly groups that may be traditionally underrepresented, such as low-income and minority segments of the population. It is important that RAB memberships are fairly balanced in terms of points of view represented and functions to be performed. Installations should consult the existing TRC, EPA, and state, tribal, and local government representatives for information or other comments before providing this notice.

b. **RAB Information Meeting.** While not required in the proposed rule, DoD suggests that an installation sponsor an informational meeting prior to establishing a RAB. The focus of this meeting will be to introduce the concept of RABs to the community and to begin the membership solicitation process.

4. Composition of a RAB

a. **Membership.** RAB membership should be well balanced and reflect the diverse interests within the local community. Therefore, DoD proposes that each RAB should consist of representatives of the Military Component, members of the community, EPA, and state, tribal, or local government representatives, as appropriate.

b. **Government Representation.** In addition to the Military Component, DoD proposes that EPA and state, tribal, and local governments should be represented on the RAB, as they fulfill important roles because of their regulatory oversight of DoD environmental restoration activities. Potential candidates may include the Remedial Project Manager (RPM) from the installation, EPA at the discretion of the EPA Administrator, as well as representatives from the state, tribal, or local government agencies. In the case of closing military installations, members of the BRAC Cleanup Team (BCT) may serve on the RAB as government representatives. It is important that any government representative chosen for RAB membership dedicate the time necessary, and have sufficient authority, to fulfill all RAB responsibilities.

Ideally, DoD believes that RABs should have only one representative from each government agency, so as to prevent an inordinate representation by government and DoD officials. While DoD encourages other government representatives to attend RAB meetings, these representatives' role will be strictly one of providing information and support.

c. **Community Representation.** While DoD is not proposing specific procedures to be used for selecting community members of the RAB, DoD notes that one of the most sensitive issues facing installations that establish a RAB concerns the selection of community members. When members of the community feel the selection process for RAB members, particularly of community members, is conducted in an objective and unbiased manner, it enhances their perception that the RAB can be a credible forum for the discussion of their issues and concerns. If the selection of community members is not approached carefully, the result can be a loss of trust.

To support the objective selection of community RAB members, installations will use a selection panel comprised of community members to nominate community RAB members. The Installation Commander in consultation with the state, tribal, and local governments and EPA, as appropriate, will identify community interests and solicit names of individuals who can represent these interests on the selection panel. The panel will establish and announce the following:

- Procedures for nominating community RAB members,
- Process for reviewing community interest,
- Criteria for selecting community RAB members, and
- List of RAB nominees.

Following the panel nominations, the Installation Commander, in consultation with the state and EPA as appropriate, will review the nominations to ensure the panel fairly represents the local community.

Many installations are located in close proximity to American Indian and Alaska Native communities. While DoD encourages individual tribal members to participate on RABs, RABs in no way replace or serve as a substitute forum for the government-to-government relationship between DoD and federally-recognized tribes, as defined by the most current Department of Interior/Bureau of Indian Affairs list of tribal entities published in the Federal Register pursuant to Section 104 of the Federally Recognized Indian Tribe List Act.

RAB community members should live and/or work in the affected community or be affected by the installation's environmental restoration program. DoD will not limit participation in the RAB of potential members who have or may bid on DoD contracts, if proper and appropriate assurances to avoid any potential conflicts of interest are issued. DoD will, however, apply

applicable conflict of interest rules, pursuant to the Federal Acquisition Regulation. DoD will not preclude RAB membership to individuals who are party to a lawsuit against the federal or state government concerning the installation or any of its activities if the individual identifies the fact that he or she is a party to such a lawsuit, agrees not to use any information obtained through their position on the RAB in the lawsuit, and certifies that he or she can fairly represent the interest of the community on whose behalf he or she was selected rather than their own interest in the lawsuit.

At closing installations, members of the LRA, as defined under BRAC, are included as stakeholders and are encouraged to attend RAB meetings. There is not a specific requirement, however, that LRA members be invited to be a member of the RAB.

d. Chairmanship. DoD proposes that chairmanship of the RAB be shared between the installation and the community. DoD believes this will promote partnering between DoD and the community and reflect DoD's commitment to consider the community's concerns when making decisions about the environmental restoration process. Together, the installation and community co-chairs jointly will determine meeting agendas, run meetings, and ensure that issues related to environmental restoration are raised and adequately considered.

e. Compensation for Community Members of the RAB. DoD also is specifying in the proposed rule that the community co-chair and community RAB members are expected to serve without compensation for their services. DoD considers community membership on a RAB to be voluntary, and, therefore, DoD will not pay these members for their participation.

f. Roles and Responsibilities of Members. DoD is not proposing specific requirements concerning the roles and responsibilities of individual members of a RAB. DoD considers the issuance of such regulations to be overly burdensome to the formation and operation of RABs, and, therefore, unnecessary.

B. Operating Requirements

1. Creating a Mission Statement

DoD proposes that each RAB should have a mission statement that articulates the overall purpose of the RAB. DoD considers this necessary to provide focus and objectives for the group. In addition, when members of the RAB understand their mission from the outset, it provides a framework for discussions. Without the framework, discussions may become hampered with issues that are not relevant to the environmental restoration process. The DoD installation co-chair in conjunction with the RAB members will determine the RAB mission statement. The mission statement should be discussed with the RAB and the DoD installation co-chair will listen to and consider the RAB members' comments before finalizing.

2. Selecting Co-Chairs

DoD proposes that the installation co-chair be selected either by the Installation Commander or equivalent, or defined by military service-specific guidance, while the community members of the RAB will select the community co-chair. DoD considers it necessary for the community members to select their co-chair to ensure their active participation in the operation of the RAB and to help ensure that the RAB can be a credible forum for discussing community issues and concerns.

3. Developing Operating Procedures

DoD considers a formal and agreed-upon set of operating procedures necessary to manage the business of RABs. While DoD will allow each RAB to customize or tailor its operating procedures as it sees fit, DoD proposes that areas that may be addressed in the operating procedures include:

- Clearly defined goals and objectives for the RAB. The DoD installation co-chair will determine the RAB goals and objectives. These should be discussed with the RAB, and the DoD installation co-chair will listen to and consider the RAB members' comments before finalizing the goals and objectives.
- Announcing meetings
- Attendance requirements of members at meetings
- Development and approval procedures for the minutes of RAB meetings
- Meeting frequency and location
- Rules of Order
- The frequency and procedures for conducting training
- Procedures for selecting or replacing the community co-chair and selecting, replacing, or adding community RAB members
- Specifics on the size of the RAB membership and the periods for membership and co-chair length of service
- Review and responses to public comments
- Participation of the public
- Keeping the public informed about proceedings of the RAB.

4. Training RAB Members

DoD is not proposing a requirement for training members of the RAB. DoD believes, however, that RAB members may need some initial orientation training to enable them to fulfill their responsibilities. DoD recommends that the installation should work with EPA, the state, tribes, and environmental groups to develop methods to quickly inform and educate the RAB members and to promote the rapid formation of a fully functioning RAB.¹

DoD notes that under this proposed rule, only certain types of training will be considered within the scope of administrative support for RABs, and therefore, may be financed using funds allocated to the administrative expenses of RABs. DoD further discusses training in context of administrative support eligible for available funding in section IV.C.1.b. of this preamble.

5. Conducting RAB Meetings

a. **Public Participation.** DoD believes the meeting format of each RAB will vary and be dictated by the needs of the participants. Therefore, DoD is not proposing specific procedures for

¹ Further guidance on training RAB community members may be found in "Restoration Advisory Board Guidelines, DoD/EPA September 1994."

conducting RAB meetings.² All RAB meetings, however, should be open to the public. The installation co-chair should prepare and publish a timely public notice in a local newspaper of general circulation announcing each RAB meeting. Each RAB meeting will be held at a reasonable time and in a manner or place reasonably accessible to and usable by persons with disabilities. Interested persons will be permitted to attend, appear before, or file statements with any RAB, subject to such reasonable rules or regulations that may be prescribed.

b. **Nature of Discussions.** Regarding the nature of discussions at RAB meetings, the installation will listen and give meaningful consideration to all advice provided by the individual RAB members. While voting or polling the members may facilitate RAB discussions, such votes should be advisory only and not binding on agency decision makers. Group consensus is not a prerequisite for RAB input; each member of the RAB should provide advice as an individual.

c. **Meeting minutes.** DoD proposes that the installation co-chair, in coordination with the community co-chair, will prepare detailed minutes of each RAB meeting. The RAB meeting minutes will be kept and will contain a record of the persons present, a complete and accurate description of matters discussed and opinions voiced, and copies of all reports received, issued, or approved by the RAB. At the installation's discretion, a court reporter or electronic taping is allowable, whether through live transmission or video or audiotape. The accuracy of all minutes will be certified by the RAB co-chairs. Although not required, DoD recommends that the installation consider mailing copies of the minutes to all community members who attended the meeting and/or to people identified on the installation's community relations mailing list. This is to ensure dissemination of the results to community members and interested parties.

6. RAB Adjournment and Dissolution

In this section of the proposed rule, DoD sets forth requirements for adjourning a RAB, adjournment procedures, dissolving a RAB, dissolution procedures, reestablishing an adjourned or dissolved RAB, and public comment.

a. RAB Adjournment.

(1) **Requirements for RAB Adjournment.** An Installation Commander may adjourn a RAB when there is no longer a need for a RAB or when community interest in the RAB declines.

Any of the following situations are an indication that it may be appropriate to adjourn the RAB:

- A record of decision has been signed for all DERP sites on the installation.
- An installation has achieved response complete at all sites and no further cleanup decisions are required.
- An installation has all remedies in place. When all environmental restoration decisions have been made and required remedies are in place and properly operating at an installation, the RAB may adjourn or decide to become inactive. The installation (or the designated authority at closure installations) will establish a mechanism to inform the community, including former RAB members, about subsequent actions, such as long-term monitoring and five-year reviews, that may interest the RAB and allow the community to address this information as appropriate. At a minimum, the installation will provide this information to the community through status report mailings, Web sites, or local information repositories.
- The RAB has achieved its objectives as defined in the RAB Operating Procedures.

² For further guidance on meeting formats see "Restoration Advisory Board Implementation Guidelines, DoD/EPA September 1994."

- A RAB may become inactive or adjourn if there is no longer sufficient, sustained community interest, as documented by the installation with RAB community members and community-at-large input, to sustain the RAB. The installation will continue to monitor for any changes in community interest that could warrant reactivating or reestablishing the RAB.
- The installation has transferred some or all of its environmental restoration role and responsibility to other entities, such as in the case of privatization, guaranteed-fixed price contracts, and early transfer.

(2) **Adjournment Procedures.** The Installation Commander should consult with EPA, states, tribes, RAB members, and the local community, as appropriate, regarding adjourning the RAB before making a final decision. The Installation Commander should consider all responses when determining the appropriate action.

If the Installation Commander decides to adjourn the RAB, the Installation Commander will document the rationale for adjournment in a memorandum for inclusion in the Administrative Record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing public involvement opportunities that are available.

b. RAB Dissolution.

(1) **Requirements for RAB Dissolution.** An Installation Commander may dissolve a RAB when a RAB is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental cleanup projects as described in IV. A. 1. b. Although Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as efficiently as possible, circumstances may prevent a RAB from fulfilling the intended purpose as described in this rule. When this occurs, the Installation Commander will make a concerted attempt to resolve the issues that affect the RAB's effectiveness. If unsuccessful, the Installation Commander may elect to adjourn the RAB. In making such a decision, if environmental restoration activities are not complete, the Installation Commander should ensure that the community involvement program detailed in the Community Relations Plan provides for continued effective stakeholder input.

(2) **Dissolution Procedures.** The installation co-chair should consult with EPA and state, tribal and local government representatives, as appropriate, regarding dissolving the RAB. The installation co-chair should notify the RAB community co-chair and members in writing of the intent to dissolve the RAB and the reasons for doing so, and provide the RAB members 30 days to respond in writing. The installation co-chair should consider RAB member responses, and in consultation with EPA and state, tribal and local government representatives, as appropriate, determine the appropriate action.

If the Installation Commander decides to proceed with recommending the RAB for dissolution, the Installation Commander should notify the public of the proposal to dissolve the RAB and provide a 30-day public comment period on the proposal (see section d. Public Comment for further discussion). At the conclusion of the public comment period, the Installation Commander will review the public comments, consult with EPA, state, tribal and local government representatives, as appropriate, and render a recommendation.

The recommendation, responsiveness summary, and all supporting documentation should be sent via the chain-of-command to the Military Component's Environmental Deputy Assistant Secretary (or equivalent) for approval or disapproval. The Military Component's Environmental Deputy Assistant Secretary (or equivalent) will notify the Office of the Deputy Under Secretary

of Defense (Installations & Environment) (or equivalent) of the decision to approve or disapprove the request to dissolve the RAB and the rationale for that decision.

Once the Military Component's Environmental Deputy Assistant Secretary (or equivalent) makes a final decision, the Installation Commander will document the rationale for dissolution in a memorandum for inclusion in the Administrative Record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing public involvement opportunities that are available.

c. **Reestablishing an Adjourned or Dissolved RAB.** An installation may reestablish an adjourned or dissolved RAB if there is sufficient and sustained community interest in doing so and there are environmental restoration activities still ongoing at the installation. Where a RAB is adjourned or dissolved and environmental restoration activities continue, the installation should reassess community interest at least every 24 months. Reassessment should include, at a minimum, consultation with the chain-of-command, EPA, state, tribes, and the local community, as appropriate, and a 30-day public comment period (see section d. Public Comment for further discussion). Where the reassessment finds sufficient and sustained community interest, the Installation Commander should reestablish a RAB. Where the reassessment does not find sufficient and sustained community interest in reestablishing the RAB, the Installation Commander should document (in a memorandum for the record) the procedures followed in the reassessment and the findings of the reassessment. This document will be included in the Administrative Record for the installation.

d. **Public Comment.** If a decision is made to dissolve a RAB or reconstitute a dissolved RAB, the Installation Commander will notify the public of the proposal to dissolve or reconstitute the RAB and provide a 30-day public comment period on the proposal. The Installation Commander will notify the public of the decision through publication of a notice in a local newspaper of general circulation and distribute the notice to community members. The installation's Public Affairs Office should have an updated mailing list. At the conclusion of the public comment period, the Installation Commander will review public comments, consult with the RAB, EPA, and state, tribal, or local government representatives, as appropriate, prepare a responsiveness summary, and render a recommendation. The Installation Commander will notify the public of the decision.

7. Documenting RAB Activities

Additionally, the installation will document the relevant information on the activities of a RAB in the Information Repository. These activities will include, but are not limited to:

- Installation's efforts to survey community interest in forming a RAB,
- Steps taken to establish a RAB where there is sustained community interest,
- How the RAB relates to the overall community involvement program, and
- Steps taken to adjourn the RAB.

The records, reports, minutes, appendixes, working papers, drafts, studies, agenda, or other documents that were made available to or prepared for or by each RAB will be available for public inspection and copying at a single, publicly accessible location, such as the information repositories established under the installation's Community Relations Plan, a public library, or in the offices of the installation to which the RAB reports, until the RAB ceases to exist.

To the extent that RAB input is considered in a decision regarding environmental restoration activities, relevant information on the RAB activities will be included in the Administrative Record.

C. Administrative Support, Funding, and Reporting Requirements

1. Administrative Support and Eligible Expenses

a. **Administrative Support.** The Installation Commander, or if there is no such Commander, an appropriate DoD official, is authorized to pay for routine administrative expenses of a RAB established at an installation (10 U.S.C. § 2705(d)(3)). To implement this provision, this proposed rule requires that the installation provide administrative support to establish, operate, and adjourn a RAB, subject to the availability of funds. Securing ongoing administrative support is especially important for closing or closed installations.

DoD proposes to define the scope of activities that are unique to the establishment and operation of RABs, and therefore eligible as a RAB administrative expense.

b. **Eligible Administrative Expenses.** In order for an activity to be considered as an eligible RAB administrative cost, the activity must be unique to and directly associated with establishing and operating the RAB. For example, an advertisement for a RAB meeting is an eligible RAB administrative cost. However, producing a fact sheet as part of obtaining a hazardous waste storage permit under RCRA or hosting an installation open house as specified by the Community Relations Plan under CERCLA, may not necessarily be relevant to a RAB's mission statement or operations. The costs incurred in preparing and distributing such a fact sheet or holding the open house would not be considered administrative support required for a RAB.

While DoD cannot identify all possible examples of activities unique to and directly associated with establishing and operating a RAB, DoD proposes to consider the following activities as typical of administrative support required for a RAB:

- RAB establishment
- Membership selection
- Training if it is unique to and mutually benefits the establishment and operation of a RAB and relevant to the environmental restoration activities occurring at the installation
- Meeting announcements
- Meeting facility
- Meeting facilitators, including translators
- Meeting agenda materials and minutes preparation
- RAB-member mailing list maintenance and RAB materials distribution
- RAB adjournment.

RAB administrative support is for RAB purposes only. RAB administrative expenses do not include general community involvement expenses, such as preparation of public outreach materials, responses to public comment, or repository costs. RAB administrative support does not include efforts to determine community interest in forming a RAB that does not result in the actual formation of a RAB. These items will be categorized as a community involvement expense.

Additional types of expenses ineligible as RAB administrative costs include, but are not limited to:

- Salaries for DoD personnel
- Dedicated equipment such as computers, software, facsimile machines, telephone lines, or electronic mail for community RAB members
- Renting dedicated office space for community RAB members
- Administrative support to community members of the RAB
- Printed stationery and personal business cards
- Temporary duty/travel, conference attendance, or fees, except where prior approval has been granted by DoD
- Compensation to RAB members for meeting attendance, work hours lost, time reviewing and commenting on documents, travel to meetings, or long distance telephone calls.

Training for RAB members is considered an eligible administrative cost if it mutually benefits all members of a RAB and is relevant to the environmental restoration activities occurring at the installation. For example, if the installation were to hold an orientation training for members of a RAB, costs incurred in preparing training manuals, slides, or other presentation materials would be considered an allowable administrative expense because such training is mutually beneficial to all members of the RAB. A type of training that would not qualify as a RAB administrative support includes specialized training for an individual member of a RAB, such as an off-site workshop on building leadership capabilities. However, DoD notes that types of training that are not eligible for funding as a RAB administrative expense may qualify and be eligible for funding as technical assistance.

c. **Funding.** The Secretaries of the Military Departments will make funds available for RAB administrative expenses (10 U.S.C. § 2705(g)), subject to the availability of funds. Funds requested for environmental restoration activities that were appropriated to Military Components' ER or BRAC accounts or the ER-FUDS account may be used to provide administrative support to RABs. Such funds should not be used to support the activities of environmental groups or advisory boards in addressing issues other than environmental restoration activities. The Installation Commander is authorized to pay routine administrative expenses of the RABs, in accordance with 10 U.S.C. § 2705(d)(3). *The activities of the RAB and expenditures of such funds for administrative expenses will be reported to ODUSD(I&E), at a minimum, on an annual basis.*

2. Technical Assistance for Public Participation (TAPP)

Community members of a RAB may request technical assistance from the private sector to assist their understanding of the scientific and engineering issues underlying eligible DoD environmental restoration activities. Technical assistance may be made available to community members of RABs or TRCs in accordance with 10 U.S.C. §2705(e) and the TAPP regulations found at 32 CFR Part 203. RABs may submit TAPP requests to the Installation Commander, or to an appropriate DoD official. The DoD installation may also provide in-house assistance to discuss technical issues.

3. Documenting and Reporting Activities and Expenses

DoD is required to report to Congress on the activities of TRCs and RABs (10 U.S.C. § 2706(a)(2)(J)). In order to fulfill this requirement, this proposed rule requires that the installation at which a RAB has been established document the activities of the RAB and track expenditures for administrative expenses of the RAB. With regards to tracking expenses, DoD recommends that installations tally costs according to the specific activities identified above (see section IV.C. 1.b. of this rule) that are typical of administrative support required for a RAB.

Although this proposed rule requires installations to document RAB activities and track expenditures, DoD is not prescribing specific procedures to accomplish this. In addition, DoD will use internal Department and Military Component-specific reporting mechanisms to obtain required information from installations on RAB activities and expenditures when reporting to Congress.

V. Regulatory Analysis

A. Regulatory Impact Analysis Pursuant to Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), as amended, DoD must determine whether a regulatory action is "significant" and therefore subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order.

DoD has determined that this proposed rule is not a "significant regulatory" action because it is unlikely to:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, productivity, competition, jobs, environment, public health, or safety of state, local, or tribal governments or communities;
- (2) Create serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan program or the rights and obligations of recipients thereof; or
- (4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

B. Regulatory Flexibility Act

It has been certified that this proposed rule is not subject to the Regulatory Flexibility Act of 1980, 5 U.S.C. § 601 et seq. because it would not, if promulgated, have a significant economic impact on a substantial number of small entities. The primary effect of the proposed rule will be to increase community involvement in DoD's environmental restoration program.

C. Paperwork Reduction Act

It has been certified that the proposed rule does not impose any reporting or recordkeeping requirements subject to the Paperwork Reduction Act of 1995 (Pub. L. No. 104-13).

VI. Unfunded Mandates

Under section 202 of the Unfunded Mandates Reform Act of 1995, DoD must prepare a statement to accompany any rule where the estimated costs to state, local, or tribal governments in the aggregate, or to the private sector, will be \$100 million or more in any one year.

DoD has determined that this proposed rule will not include a federal mandate that may result in estimated costs of \$100 million or more to either state, local, or tribal governments in the aggregate, or to the private sector.

List of Subjects in 32 CFR Part 202

Administrative practice and procedure, Environmental protection—restoration, federal buildings and facilities, Organization and functions (Government agencies).
Title 32 of the Code of Federal Regulations, Chapter I, Subchapter M, is amended by adding part 202 to read as follows:

PART 202--RESTORATION ADVISORY BOARDS (RABs)

Subpart A—General Requirements

Sec.

202.1 Purpose, scope, definitions, and applicability.

202.2 Criteria for establishment.

202.3 Notification of formation of a Restoration Advisory Board (RAB).

202.4 Composition of a RAB.

Subpart B—Operating Requirements

202.5 Creating a mission statement.

202.6 Selecting co-chairs.

202.7 Developing operating procedures.

202.8 Training RAB members.

202.9 Conducting RAB meetings.

202.10 RAB adjournment and dissolution.

202.11 Documenting RAB activities.

Subpart C—Administrative Support, Funding, and Reporting Requirements

202.12 Administrative support and eligible expenses.

202.13 Technical assistance for public participation (TAPP).

202.14 Documenting and reporting activities and expenses.

Authority: 5 U.S.C. § 551 et seq. and 10 U.S.C. § 2705.

Subpart A—General Requirements

Sec. 202.1 Purpose, scope, definitions, and applicability.

(a) Purpose. The purpose of this part is to establish regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of Restoration Advisory Boards (RABs).

(b) Purpose and scope of responsibilities of RABs. The purpose of a RAB is to provide:

(1) An opportunity for stakeholder involvement in the environmental restoration process at Department of Defense (DoD) installations. Stakeholders are those parties that may be affected by environmental restoration activities at the installation.

(2) A forum for the discussion and exchange of environmental restoration program information between DoD installations, regulatory agencies, and the community.

(3) An opportunity for RAB members to review progress and participate in a dialogue with the installation's decision makers concerning environmental restoration matters. Installations shall give meaningful consideration to the comments provided by the RAB members.

(c) Definitions. In this section:

(1) *Installation* shall include active and closing Department of Defense (DoD) installations and formerly used defense sites (FUDS). (2) *Installation Commander* shall include the Commanding

Officer or the equivalent of a Commanding Officer at active installations; the Installation Commander or other Military Department officials who close the facility and are responsible for its disposal at Base Realignment and Closure (BRAC) installations; or the U.S. Army Corps of Engineers Project Management District Commander at FUDS.

(3) *Tribes* shall mean any federally recognized American Indian and Alaska Native government as defined by the most current Department of Interior/Bureau of Indian Affairs list of tribal entities published in the Federal Register pursuant to Section 104 of the Federally Recognized Tribe Act.

(4) *RAB adjournment* shall mean when an Installation Commander, in consultation with the Environmental Protection Agency (EPA), state, tribes, RAB members, and the local community, as appropriate, closes the RAB based on a determination that there is no longer a need for a RAB or when community interest in the RAB declines.

(5) *RAB dissolution* shall mean when an Installation Commander disbands a RAB that is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental restoration projects. Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as efficiently as possible and a concerted attempt to resolve issues that affect the RAB's effectiveness. There are circumstances, however, that may prevent a RAB from operating efficiently or fulfilling its intended purpose.

(d) Other public involvement activities. A RAB should complement other community involvement efforts occurring at an installation; however, it does not replace other types of community outreach and participation activities required by applicable laws and regulations.

(e) Applicability of regulations to existing RABs. The regulations in this part apply to all RABs regardless of when the RAB was established.

(f) Guidance. The Office of the Assistant Deputy Under Secretary of Defense for Environment shall issue guidance regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs pursuant to this rule. The issuance of any such guidance shall not be a precondition to the establishment of RABs or the implementation of this rule.

Sec. 202.2 Criteria for establishment.

(a) Determining if sufficient interest warrants establishing a RAB. A RAB should be established when there is sufficient and sustained community interest, and any of the following criteria are met:

(1) The closure of an installation involves the transfer of property to the community,

(2) At least 50 local citizens petition the installation for creation of a RAB,

(3) Federal, state, tribal, or local government representatives request the formation of a RAB, or

(4) The installation determines the need for a RAB. To determine the need for establishing a RAB, an installation should:

(i) Review correspondence files,

(ii) Review media coverage,

(iii) Consult local community members,

(iv) Consult relevant government officials, and

(v) Evaluate responses to notices placed in local newspapers.

(b) Responsibility for forming or operating a RAB. The installation shall have lead responsibility for forming and operating a RAB.

(c) Converting existing Technical Review Committees (TRCs) to RABs. In accordance with 10 U.S.C. § 2705(d)(1), a RAB may fulfill the requirements of 10 U.S.C. § 2705(c), which directs DoD to establish TRCs. DoD recommends that, where TRCs or similar advisory groups already exist, the TRC or similar advisory group be considered for conversion to a RAB, provided there is sufficient and sustained interest within the community.

Sec. 202.3 Notification of Formation of a Restoration Advisory Board (RAB).

Prior to establishing a RAB, an installation shall notify potential stakeholders of its intent to form a RAB. In announcing the formation of a RAB, the installation should describe the purpose of a RAB and discuss opportunities for membership.

Sec. 202.4 Composition of a RAB.

(a) **Membership.** At a minimum, each RAB shall include representatives from DoD and the community.

(1) **Government representation.** The RAB may also include representatives from the EPA at the discretion of the Administrator of the appropriate EPA regional office, and state, tribal, and local governments, as appropriate. At closing installations, representatives of the BRAC Cleanup Team (BCT) may also serve as the government representative(s) of the RAB.

(2) **Community representation.** RAB community members should live and/or work in the affected community or be affected by the installation's environmental restoration program.

(b) **Chairmanship.** Each RAB established shall have two co-chairs, one representing the DoD installation and the other the community. Co-chairs shall be responsible for directing and managing the RAB operations.

(c) **Compensation for community members of the RAB.** The community co-chair and community members serve voluntarily; therefore, DoD will not compensate them for their participation.

Subpart B—Operating Requirements

Sec. 202.5 Creating a mission statement.

The DoD installation co-chair in conjunction with the RAB members shall determine the RAB mission statement.

Sec. 202.6 Selecting co-chairs.

(a) **DoD installation Co-chair.** The DoD installation co-chair shall be selected by the Installation Commander or equivalent, or in accordance with Military Service-specific guidance.

(b) **Community Co-chair.** The community co-chair shall be selected by the community members of the RAB.

Sec. 202.7 Developing operating procedures.

Each RAB shall develop a set of operating procedures. Areas that should be addressed in the procedures include:

(1) Clearly defined goals and objectives for the RAB, as determined by the DoD installation co-chair in consultation with the RAB.

(2) Announcing meetings.

(3) Attendance requirements of members at meetings.

(4) Development and approval procedures for the minutes of RAB meetings.

(5) Meeting frequency and location.

(6) Rules of order.

(7) The frequency and procedures for conducting training.

(8) Procedures for selecting or replacing co-chairs and selecting, replacing, or adding RAB members.

(9) Specifics on the size of the RAB, periods of membership, and co-chair length of service.

(10) Review and responses to public comments.

(11) Participation of the general public.

(12) Keeping the public informed about proceedings of the RAB.

Sec. 202.8 Training RAB Members.

Training is not required for RAB members. It may be advisable, however, to provide RAB members with some initial orientation training to enable them to fulfill their responsibilities. Funding for training activities must be within the scope of administrative support for RABs, as permitted in Section 202.12 of this rule.

Sec. 202.9 Conducting RAB Meetings.

(a) Public participation. RAB meetings shall be open to the public.

(1) The installation co-chair shall prepare and publish a timely public notice in a local newspaper of general circulation announcing each RAB meeting.

(2) Each RAB meeting shall be held at a reasonable time and in a manner or place reasonably accessible to and usable by persons with disabilities.

(3) Interested persons shall be permitted to attend, appear before, or file statements with any RAB, subject to such reasonable rules or regulations as may be prescribed.

(b) Nature of discussions. The installation shall give meaningful consideration to all comments provided by the individual RAB members.

(c) Meeting Minutes. The installation co-chair, in coordination with the community co-chair, shall prepare detailed minutes of each RAB meeting.

(1) The RAB meeting minutes shall be kept and shall contain a record of the persons present, a complete and accurate description of matters discussed and comments received, and copies of all reports received, issued, or approved by the RAB. The accuracy of all minutes shall be certified by the RAB co-chairs.

(2) The records, reports, minutes, appendixes, working papers, drafts, studies, agenda, or other documents that were made available to or prepared for or by each RAB shall be available for public inspection and copying at a single, publicly accessible location, such as the information repositories established under the installation's Community Relations Plan, a public library, or in the offices of the installation to which the RAB reports, until the RAB ceases to exist.

Sec. 202.10 RAB Adjournment and Dissolution.

(a) RAB adjournment.

(1) Requirements for RAB adjournment. An Installation Commander may adjourn a RAB when there is no longer a need for a RAB or when community interest in the RAB declines. Any of the following situations are an indication that it may be appropriate to adjourn the RAB:

(i) A record of decision has been signed for all DERP sites on the installation.

(ii) An installation has achieved response complete at all sites and no further cleanup decisions are required.

(iii) An installation has all remedies in place.

(iv) The RAB has achieved the desired end goal as defined in the RAB Operating Procedures.

(v) There is no longer sufficient, sustained community interest, as documented by the installation with RAB community members and community-at-large input, to sustain the RAB. The installation shall continue to monitor for any changes in community interest that could warrant reactivating or reestablishing the RAB.

(vi) The installation has transferred some or all of its environmental restoration role and responsibility to other entities.

(2) Adjournment procedures. If the Installation Commander is considering adjourning the RAB, the Installation Commander shall:

(i) Consult with the EPA, state, tribes, RAB members, and the local community, as appropriate, regarding adjourning the RAB and consider all responses before making a final decision.

(ii) Document the rationale for adjournment in a memorandum for inclusion in the Administrative Record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing

public involvement opportunities that are available, if the Installation Commander decides to adjourn the RAB.

(b) RAB dissolution.

(1) Requirements for RAB dissolution. An Installation Commander may dissolve a RAB when a RAB is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental restoration projects as described in Section 202.1(b)

(2) Dissolution procedures. If the Installation Commander is considering dissolving the RAB, the Installation Commander shall:

(i) Consult with EPA, state, tribal and local government representatives, as appropriate, regarding dissolving the RAB.

(ii) Notify the RAB community co-chair and members in writing of the intent to dissolve the RAB and the reasons for doing so and provide the RAB members 30 days to respond in writing. The Installation Commander shall consider RAB member responses, and in consultation with EPA, state, tribal and local government representatives, as appropriate, determine the appropriate action.

(iii) Notify the public of the proposal to dissolve the RAB and provide a 30-day public comment period on the proposal, if the Installation Commander decides to proceed with dissolution. At the conclusion of the public comment period, the Installation Commander will review the public comments, consult with EPA, state, tribal and local government representatives, as appropriate, and render a recommendation.

(iv) Send the recommendation, responsiveness summary, and all supporting documentation via the chain-of-command to the Military Component's Environmental Deputy Assistant Secretary (or equivalent) for approval or disapproval. The Military Component's Environmental Deputy Assistant Secretary (or equivalent) shall notify the Office of the Deputy Under Secretary of Defense (Installations & Environment) (or equivalent) of the decision to approve or disapprove the request to dissolve the RAB and the rationale for that decision.

(v) Document the rationale for dissolution in a memorandum for inclusion in the Administrative Record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing public involvement opportunities that are available, once the Military Component's Environmental Deputy Assistant Secretary (or equivalent) makes a final decision.

(c) Reestablishing an adjourned or dissolved RAB. An Installation Commander may reestablish an adjourned or dissolved RAB if there is sufficient and sustained community interest in doing so and there are environmental restoration activities still ongoing at the installation. Where a RAB is adjourned and environmental restoration activities continue, the Installation Commander should reassess community interest at least every 24 months. Where the reassessment finds sufficient and sustained community interest, the Installation Commander should reestablish a RAB. Where the reassessment does not find sufficient and sustained community interest in reestablishing the RAB, the Installation Commander shall document in a memorandum for the record the procedures followed in the reassessment and the findings of the reassessment. This document shall be included in the Administrative Record for the installation.

(d) Public comment. If a decision is made to dissolve a RAB or reconstitute a dissolved RAB, the Installation Commander shall notify the public of the proposal to dissolve or reconstitute the RAB and provide a 30-day public comment period on the proposal. At the conclusion of the public comment period, the Installation Commander shall review public comments, consult with EPA, and state, tribal, or local government representatives, as appropriate, prepare a responsiveness summary, and render a recommendation. The recommendation, responsiveness summary, and all supporting documentation should be sent via the chain-of-command to the Military Component's Environmental Deputy Assistant Secretary (or equivalent) for approval or disapproval. The Installation Commander shall notify the public of the decision.

Sec. 202.11 Documenting RAB activities.

The installation shall document information on the activities of a RAB in the Information Repository. These activities shall include, but are not limited to:

- (a) Installation's efforts to survey community interest in forming a RAB
- (b) Steps taken to establish a RAB where there is sustained community interest
- (c) How the RAB relates to the overall community involvement program, and
- (d) Steps taken to adjourn the RAB.

When RAB input has been used in decision-making, it should be documented as part of the Administrative Record.

Subpart C—Administrative Support, Funding, and Reporting Requirements

Sec. 202.12 Administrative support and eligible expenses.

(a) Administrative support. Subject to the availability of funding, the installation shall provide administrative support to establish and operate a RAB.

(b) Eligible administrative expenses for a RAB. The following activities specifically and directly associated with establishing and operating a RAB shall qualify as an administrative expense of a RAB:

- (1) RAB establishment.
- (2) Membership selection.
- (3) Training if it is:
 - (i) Unique to and mutually benefits the establishment and operation of a RAB, and
 - (ii) Relevant to the environmental restoration activities occurring at the installation.
- (4) Meeting announcement.
- (5) Meeting facility.
- (6) Meeting facilitators, including translators.
- (7) Preparation of meeting agenda materials and minutes.
- (8) RAB-member mailing list maintenance and RAB materials distribution.

(c) Funding. Subject to the availability of funds, administrative support to RABs may be funded as follows:

- (1) At active installations, administrative expenses for a RAB shall be paid for using funds from the Military Component's Environmental Restoration accounts.
- (2) At BRAC installations, administrative expenses for a RAB shall be paid using BRAC funds.
- (3) At FUDS, administrative expenses for a RAB shall be paid using funds from the Environmental Restoration account for the Formerly Used Defense Sites program.

Sec. 202.13 Technical assistance for public participation (TAPP).

Community members of a RAB or TRC may request technical assistance for interpreting scientific and engineering issues with regard to the nature of environmental hazards at the installation and environmental restoration activities conducted, or proposed to be conducted at the installation in accordance with 10 U.S.C. §2705(e) and the TAPP regulations found at 32 CFR Part 203.

Sec. 202.14 Documenting and reporting activities and expenses.

The installation at which a RAB is established shall document the activities and record the administrative expenses associated with the RAB. Installations shall use internal department and Military Component-specific reporting mechanisms to submit required information on RAB activities and expenditures.

Dated: DATE TRD



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D. C. 20350-2000

IN REPLY REFER TO

5090
Ser N453D/1U595697
NOV 29 2001

From: Chief of Naval Operations

To: Distribution

Subj: POLICY FOR CONDUCTING COMPREHENSIVE ENVIRONMENTAL
RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)
STATUTORY FIVE-YEAR REVIEWS, NOVEMBER 2001

Ref: (a) Navy/Marine Corps Installation Restoration Manual
(Feb 97)

Encl: (1) Navy/Marine Corps Policy for Conducting Comprehensive
Environmental Response, Compensation, and Liability
Act (CERCLA) Statutory Five-year Reviews, November,
2001

1. Enclosure (1) establishes procedures for conducting five-year reviews, facilitates consistency of five-year reviews across the Navy/Marine Corps, clarifies current policy, and delineates roles and responsibilities of various entities in conducting or supporting five-year reviews.

2. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires that remedial actions resulting in any hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure be reviewed every five years to assure protection of human health and the environment, regardless of the National Priorities List (NPL) status of the site or installation.

3. This policy has been coordinated and concurred with by the Marine Corps.

4. This policy will be included in the next revision to reference (a). It will also be available on the N45 website (<http://web.dandp.com/n45/index.html>) under Environmental Restoration/Training, References.

Subj: POLICY FOR CONDUCTING COMPREHENSIVE ENVIRONMENTAL
RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)
STATUTORY FIVE-YEAR REVIEWS

5. Questions or comments concerning this policy should be
directed to Mr. Geoffrey D. Cullison, CNO N453D, 2211 So. Clark
St., Arlington, VA 22202-3735, (703) 602-5329 (DSN 332-5329),
cullison.geoffrey@hq.navy.mil.


R. T. Nolan
By direction

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**Navy/Marine Corps Policy for
Conducting Comprehensive Environmental Response, Compensation,
and Liability Act (CERCLA) Statutory Five-year Reviews
November 2001**

Ref: EPA Comprehensive Five-Year Review Guidance, June 2001, EPA 540-R-01-007,
OSWER No. 9355.7-03B-P, §1.3.1

1. Statutory requirements:

a. The statutory requirement for five-year review was added to CERCLA as part of the Superfund Amendments and Reauthorization Act of 1986 (SARA). A five-year review is required when **both** of the following conditions are met, whether the site is on the National Priorities List (NPL) or not:

1) Upon completion of the remedial actions at a site, hazardous substances, pollutants, or contaminants will remain above levels that allow for unlimited use and unrestricted exposure. For example, if a site is restricted to industrial use because hazardous substances, pollutants, or contaminants remain above levels that allow for unlimited use and unrestricted exposure, five-year reviews must be conducted.

2) The Record of Decision (ROD) or Decision Document (DD) for the site was signed on or after October 17, 1986 (the effective date of SARA).

b. CERCLA §121(c), as amended, states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five-years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

c. The National Contingency Plan (NCP), 42 U.S.C. § 9621(c), implementing regulations, 40 C.F.R. Part 300.430(f)(4)(ii), provide:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

d. Consistent with Executive Order 12580, the Secretary of Defense is responsible for ensuring that five-year reviews are conducted at all qualifying Department of Defense (DoD) cleanup sites.

e ... EPA classifies five-year review as either "statutory" or "policy" depending on whether it is required by statute or conducted as a matter of EPA policy. In particular, EPA views five-year reviews conducted of RODS issued before October 17, 1986 as being conducted as a matter of policy because the five-year review requirement didn't become law until that date. Statutory five-year reviews are required by law and will be conducted by the Navy/Marine Corps at any site meeting the requirements of the law. We generally do not conduct policy five-year reviews.

2. Definitions:

a. For purpose of this policy, "site" means a location on an installation's property where a hazardous substance has been deposited, stored, disposed, or placed, or has otherwise come to be located where, upon completion of the remedial action, hazardous substances, pollutants, or contaminants will remain at the site above levels that allow for unlimited use and unrestricted exposure. This includes areas off the installation where contamination may have migrated. For purpose of this policy, "site" also means Operable Unit.

b. "Unlimited use" and "unrestricted exposure" mean that there are no restrictions on the potential use of land or other natural resources.

3. Purpose of a five-year review:

a. The purpose of a five-year review is not to reconsider decisions made during the selection of the remedy, as specified in the ROD, but to evaluate the implementation and performance of the selected remedy.

b. Where a site has a remedial action that is still in the Remedial Action-Construction (RA-C) phase or the Remedial Action-Operations (RA-O) phase, a five-year review should confirm that immediate threats have been addressed and that the remedy will be protective when complete.

c. Where a site is in the Long Term Management (LTMgt) phase, the five-year review should confirm whether the selected remedy remains protective.

d. When the five-year review indicates that the remedy is not performing as designed, the report should recommend actions to improve performance.

4. NPL status: The continuing presence of hazardous substances, pollutants, or contaminants above levels that allow for unlimited use and unrestricted exposure under CERCLA establishes the requirement for a five-year review, not the NPL status of the installation. Reference (a) states that EPA will delete an installation from the NPL when deletion criteria have been satisfied and that an installation will not be kept on the NPL solely because it is subject to five-year reviews. If the installation has been deleted or is in the process of being deleted, the five-year review report should address the status of any deletion action.

5. Resource Conservation and Recovery Act (RCRA) response: Five-year reviews are not required if cleanup of a site is addressed under RCRA corrective action. In cases where both RCRA and CERCLA authorities are used to address different sites on an installation, a five-year review is only required for those portions of the installation being addressed under CERCLA that meet the criteria for five-year reviews. When a RCRA action is included as a portion of a ROD or DD or other CERCLA decision document, the RCRA action should be included in the five-year review.

6. Interim remedial action: By itself, an interim remedial action at a site does not start the clock for a five year review of that site; it is treated like any other remedial action for the purpose of five-year reviews. An interim remedial action triggers the five-year review clock if it meets any of the criteria outlined in paragraph 1. above. For instance, if an alternate water supply is installed but hazardous substances, pollutants, or contaminants remain onsite above levels that allow for unlimited use and unrestricted exposure, a review is required by statute. A subsequent action may then reduce the hazardous substances, pollutants, or contaminants to levels allowing unlimited use and unrestricted exposure. Remedial actions are those actions consistent with a permanent remedy taken instead of, or in addition to, removal action.

7. Five-year review "trigger":

a. In keeping with the requirements of CERCLA §121(c) and the NCP, initiation of the selected remedial action that will result in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure after the remedial action is complete is the "trigger" that starts the five-year review clock. For most Navy/Marine Corps sites, this "trigger" is the onsite mobilization for commencement of the RA-C phase.

b. The first site on an installation that triggers the five-year review clock triggers the five year review clock for the entire installation, or that portion of the installation addressed under the ROD or DD.

c. Where the selected remedy will result in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure but will not require a RA-C phase, such as monitored natural attenuation using existing wells and/or institutional controls, the remedy start date is the ROD or DD signature date and therefore is also the trigger for the five-year review clock.

8. Five-year review due dates:

a. The five-year review report for a site is to be completed and signed within five years of the trigger date for that site. Subsequent five-year reviews should be signed no later than five-years after the signature date of the previous five-year review reports.

b. Because the regulators do not have a statutory role in the conduct of five-year reviews, it will be up to Navy/Marine Corps to enforce the five-year review dates. To assist the field in tracking five-year review dates, there is a field in NORM that allows management to track these dates.

9. Results of a five-year review: The results of the five-year review are presented in a five-year review report.

a. The five-year review report should;

1) clearly state whether the remedy is or is expected to be protective,

2) document any deficiencies identified during the review, and

3) recommend specific actions to ensure that a remedy will be or will continue to be protective.

b. Where necessary, five-year review reports should include descriptions of follow-up actions needed to achieve, or to continue to ensure, protectiveness. Along with these recommendations, the report should list a timetable for performing the actions and the parties responsible for implementation.

c. If it is determined that cleanup levels or remedial action objectives cannot be achieved through the remedial action, the recommendations may suggest the type of decision process (e.g., ROD or DD, ROD or DD Amendment, Explanation of Significant Differences (ESD)) needed to evaluate or make changes to the remedy, cleanup levels, or remedial action objectives.

d. For sites that are still in the RA-O phase (pre-Response complete) where evaluation and optimization of the remedial action operations are performed routinely, most information for the five-year review should be readily available.

10. Review and Signature: Pursuant to the delegations of authority in sections 2(d) and 11(g) of Executive Order 12580, and DoD Instruction 4715.7 of 22 April, 1996, Department of the Navy (DON) is the approval authority for CERCLA five-year reviews conducted at sites under its jurisdiction, custody or control.

a. Five-year reviews completed with ER,N or BRAC funds will be signed by the Commanding Officer of the supporting EFD/A.

b. Five-year reviews completed with installation funds will be signed by the installation Commanding Officer/Commanding General or a designee of the Regional Environmental Coordinator.

c. Regulatory agencies have no statutory review authority in five-year reviews conducted by DON in its Lead Agent authority except where some past DON Federal Facility Agreements (FFAs) have included five-year review reports as enforceable primary documents. Future FFAs and Federal Facility-State Remediation Agreements (FFSRAs) are not to include five-year review reports as either primary or secondary documents. However, five-year reviews may be submitted to the appropriate regulators for their review and comment as a matter of partnering.

11. Keeping the community informed:

a. Because the five-year review addresses the status and protectiveness of a remedy, it should be used to communicate this information to the community. If the Restoration Advisory Board (RAB) is still active at the installation, preparation for and conduct of the five-year review should be an agenda item at each RAB meeting conducted while the five-year review is underway. Where necessary, additional RAB meetings should be held to ensure the community is kept up to date on progress and results of the five-year review. If the RAB is inactive or has disbanded, the installation shall determine the most effective approach to informing the community based on the level of community interest. At a minimum, community involvement activities during the five-year review should include notifying the community that the five-year review will be conducted, notifying the community that the five-year review has been completed, and providing the results of the review to the local site repository.

b. The installation Public Affairs Officer can recommend appropriate methods of communication (e.g., public notices, fact sheets) for notifying the public.

c. Upon completion of the five-year review and Five-Year Review Report, a brief summary of the report should be made available to the stakeholders. The summary should include a short description of the remedial action, any deficiencies, recommendations and follow-up actions that are directly related to protectiveness of the remedy, and the determination(s) of whether the remedy is or is expected to be protective of human health and the environment. The summary should also provide the location of the site information repository and/or where a copy of the complete report can be obtained, and provide the date of the next five-year review or notify the community when five-year reviews will no longer be necessary.

e. Five year reviews are not Administrative Record material and are not to be included therein. However, the RPM should ensure that the signed five-year review report is placed in the site information repository.

12. Discontinuing five-year reviews:

a. There is no statutory provision for the discontinuation of statutory reviews. However, EPA acknowledges in reference (a) that five-year reviews may no longer be needed when no hazardous substances, pollutants, or contaminants remain on site above levels that allow for unlimited use and unrestricted exposure, reference (a), paragraph 1.2.4. The basis for this finding should be documented in the final Five-Year Review report.

b. If a ROD or DD states that a five-year review will be performed, but prior to conducting the first review the EFD/EFA determines that no review is required, this finding should be recorded in a major document subject to public comment, such as a Proposed Plan or a Notice of Intent to Delete.



INSTITUTIONAL CONTROLS

What they are and how they are used

WHAT IS AN INSTITUTIONAL CONTROL?

The purpose of this fact sheet is to provide an overview of Institutional Controls (IC) and how they are used. A separate fact sheet is being developed on establishing and maintaining ICs as part of an environmental cleanup remedy decision. That fact sheet will also be available on the Department of Defense (DoD) BRAC Environmental homepage at <http://www.dtic.mil/envirodod/envbrac.html>.

- ICs have a long history as a tool in property law and their use in a non-environmental context is quite common. An example of an IC in a non-environmental context is a prohibition against having a television reception satellite dish in a planned community.
- An IC is a legal or institutional mechanism that limits access to or use of property, or warns of a hazard. An IC can be imposed by the property owner, such as use restrictions contained in a deed or by a government, such as a zoning restriction.

USES OF INSTITUTIONAL CONTROLS IN ENVIRONMENTAL CLEANUP

- ICs are used to ensure protection of human health and the environment.
- ICs are used to protect ongoing remedial activities and to ensure viability of the remedy.
- ICs are specifically provided for by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP).
- DoD has used and will use ICs in remedial activities during cleanup and as part of a final remedy.

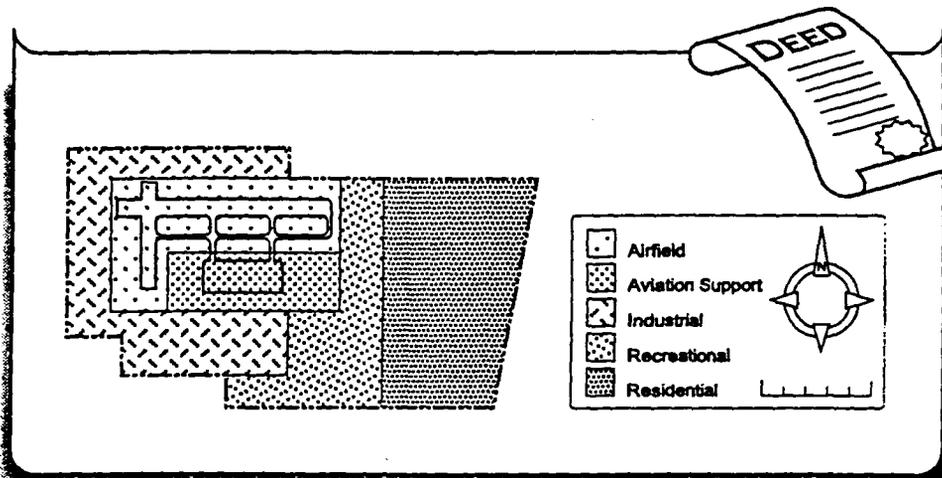
TYPES OF INSTITUTIONAL CONTROLS

ICs fall into two categories:

- Proprietary controls
- Governmental controls

WHAT IS A PROPRIETARY CONTROL?

- A proprietary control is a private contractual mechanism contained in

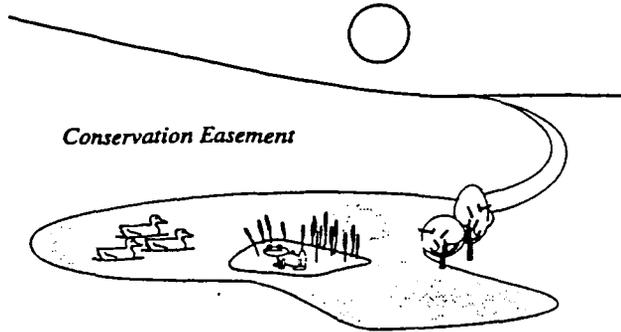


the deed or other document transferring the property.

- Proprietary controls involve the placement of restrictions on land through the use of easements, covenants, and reversionary interests. Easements, covenants, and reversionary interests are nonpossessory interests. Nonpossessory interests give their holders the right to use or restrict the use of land, but not to possess it.
- State law varies on the application and enforcement of such restrictions.

What is an Easement?

- An easement allows the holder to use the land of another, or to restrict the uses of the land. For example, a conservation easement restricts the owner to uses that are compatible with conservation of the environment or scenery.



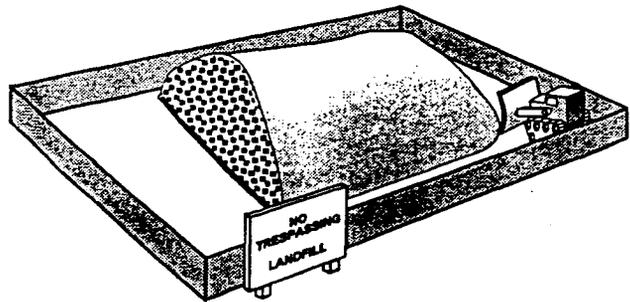
- If the owner violates the easement, the holder may bring suit to restrain the owner.
- An easement "appurtenant" provides a specific benefit to a particular piece of land. For example, allowing a neighbor to walk across your land to get to the beach. The neighbor's land, the holder of the easement, benefits by having beach access through your land.
- An easement "in gross" benefits an individual or company. For example, allowing the utility company to come on your land to lay a gas line. The utility company, the holder of the easement, benefits by having use of the land to lay the gas line.
- An affirmative easement allows the holder to use another's land in a way that, without the ease-

ment, would be unlawful— for example, allowing a use that would otherwise be a trespass.

- A negative easement prohibits a lawful use of land — for example, creating a restriction on the type and amount of development on land.

What is a Covenant?

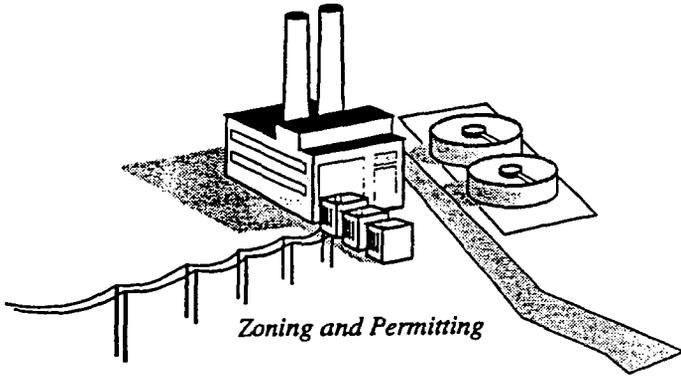
- A covenant is a promise that certain actions have been taken, will be taken, or may not be taken.
- Covenants can bind subsequent owners of the land. There are special legal requirements needed to bind subsequent owners.
- An affirmative covenant is a promise that the owner will do something that the owner might not otherwise be obligated to do -- for example, maintaining a fence on the property that surrounds a landfill.



- A negative covenant is a promise that an owner will not do something that the owner is otherwise free to do -- for example, restricting the use of groundwater on the land.

What is a Reversionary Interest?

- A reversionary interest places a condition on the transferee's right to own and occupy the land. If the condition is violated, the property is returned to the original owner or the owner's successors.
- Each owner in the chain of title must comply with conditions placed on the property. If a condition is violated the property can revert to the original owner, even if there have been several transfers in the chain of title.



WHAT IS A GOVERNMENTAL CONTROL?

- Governmental controls are restrictions that are within the traditional police powers of state and local governments to impose and enforce.
- Permit programs and planning and zoning limits on land use are examples of governmental controls.

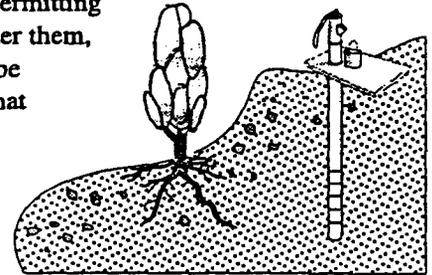
What are possible governmental controls?

- **Zoning**— Use restrictions imposed through the local zoning or land use planning authority. Such

restrictions can limit access and prohibit disturbance of the remedy. Zoning authority does not exist in every jurisdiction.

- **Siting restrictions** — Control land use in areas subject to natural hazards, such as earthquakes, fires, or floods. Such restrictions are created through statutory authority to require that states implement and enforce certain land use controls as well through local ordinances.

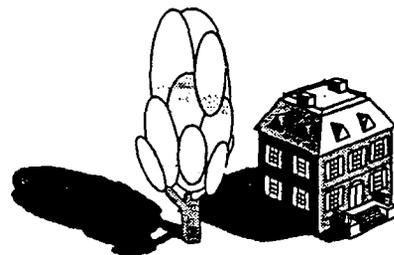
- **Groundwater restrictions**— Specific classification systems used to protect the quality of or use of ground water. These systems operate through a state well permitting system. Under them, criteria may be established that must be met before a use permit or construction is allowed.



Examples of the Application of Institutional Controls

Historic Preservation at U.S. Customs House, Boston

In 1987, the Custom House in Boston was deemed excess and the General Services Administration (GSA), through special legislation, sold it to the Boston Redevelopment Authority. At the time of the sale, the GSA placed an historic preservation covenant in the deed to protect the exterior architectural and structural integrity of the building. The Boston Redevelopment Authority wanted to resell the Custom House to a developer that planned to connect it by a skyway to a building half a block away. When GSA refused to remove the historic covenant, the deal fell through. Several years later, the Marriott Corporation proposed a plan to buy the Custom House and create an urban park between the Marriott at the Wharf and the Custom House. Under the plan, the building will retain its historic appearance and will be used as one of Marriott's time-share properties.



Examples of the Application of Institutional Controls

Limiting Subsurface Use at Former Minuteman Missile Silos

With the end of the Cold War, the Department of Defense announced the retirement of the Force Minuteman missile system in North and South Dakota and Missouri. As allowed by the Strategic Arms Reduction Treaty, the Air Force, after extensive technical analysis and public comment, determined that dismantlement of the missile facilities would be accomplished by imploding the structures, capturing the contamination within the concrete structures; capping each structure with a combination of three feet of soil and a thick plastic liner; and contouring the landscape at an additional depth of seven feet above the facility. The Air Force also determined that CERCLA 120(h) applied to the transfer of these facilities to non-federal entities. The Air Force and the U.S. Environmental Protection Agency (EPA) found a sensible approach to address environmental issues, which was formalized in an agreement between the two agencies. The agreement calls for the GSA in disposing the property to notify federal and state regulators when the property is transferred; provide prior notice to and obtain the approval of federal and state regulators for any construction or other activity that would affect the underground facility or groundwater monitoring wells; and place restrictions in the deed of conveyance to prohibit future property owners from installing water wells or otherwise physically penetrating beneath the surface of the site below two feet. The Air Force and regulators also were provided with rights of access. The ICs are in place for the disposal of these missile sites in North and South Dakota and Missouri.

Other Sources of Information

1. John Pendergrass, *Use of Institutional Controls as Part of a Superfund Remedy: Lessons from Other Programs*, 26 ELR 10219 (March 1996).
2. Report of the Future Land Use Working Group to the Defense Environmental Response Task Force, *Types of Institutional Controls*, (May 1996), available on DoD BRAC environmental homepage at <http://www.dtic.mil/envirodod/envbrac.html>.
3. Report to the Future Land Use Working Group to the Defense Environmental Response Task Force, *Making Institutional Controls Effective*, (September 1996) available on DoD BRAC environmental homepage at <http://www.dtic.mil/envirodod/envbrac.html>.

NOTICE

We welcome and invite your comments on this fact sheet, as we seek ways to improve the information provided. Please send comments to the following address:

OADUSD (Environmental Cleanup)
 Attn: Fast-track Cleanup
 3400 Defense Pentagon
 Washington, D.C. 20301-3400.



February 1998

A Guide to Establishing Institutional Controls at Closing Military Installations

About This Guide

This guide supplements the land use matrix developed under the February 1996 "Guide to Assessing Reuse and Remedy Alternatives at Closing Military Installations" by helping to ensure the compatibility between the selected land use and the selected remedy. The land use matrix is intended as a tool to build consensus among Base Realignment and Closure (BRAC) cleanup teams (BCTs), local redevelopment authorities (LRAs), restoration advisory boards (RABs), and other community members, as well as to identify and resolve the complex restoration and reuse issues at closing installations. This guide further explains land use restrictions, namely institutional controls (ICs), that may be associated with a restoration and reuse alternative. This guide is intended to:

ICs are mechanisms that protect property users and the public from existing site contamination that continues to be present during the use of a site.

- facilitate, early in the process, discussions among stakeholders to enhance understanding of ICs, i.e., what they are and how they might be used as part of a proposed remedy alternative in the BRAC cleanup program;
- act as a planning tool and checklist to assist stakeholders in considering a selected remedy which does in fact include the use of ICs; and
- provide a framework for building cooperation among the stakeholders in the establishment and maintenance of ICs.

For a particular restoration and reuse alternative, the stakeholders may identify the need for ICs. This guide assumes that the LRA will take the environmental condition of property into account in development of its reuse plan, and that use restrictions will be included in the remedy decision arrived at through the remedy selection process. In this guide, ICs are taken to be mechanisms that protect property users and the public from existing contamination that continues to be present during the use of a site. A more detailed explanation of ICs is presented in the BRAC Environmental Program Fact Sheet: *Institutional Controls: What They Are and How They Are Used* (see "Where to Learn More," page 8). There may be other ICs associated with the property but not related directly to an environmental response action, such as historic and cultural preservation, access for utility maintenance, or ecological concerns, e.g., wetlands and wildlife protection.

Conflict can arise among stakeholders during the process of identifying and evaluating restoration and reuse alternatives. A detailed discussion of conflict resolution techniques can be found in the July 1996 document entitled *Partnering Guide for Environmental Missions of the Air Force, Army, and Navy* (see "Where to Learn More," page 8). That guide provides techniques for forming and maintaining an effective problem-finding, problem-solving team. By applying the techniques described, the parties involved in establishing and maintaining ICs can identify common issues and maximize the effectiveness of the tools available to each.



What Is the Role of Institutional Controls in the Remedy Selection Process?

The potential need for ICs is identified when stakeholders develop the land use matrix recommended in the BRAC Environmental Program Fact Sheet: *A Guide to Assessing Reuse and Remedy Alternatives at Closing Military Installations*. When various restoration and reuse alternatives are being developed, the first question to be asked is:

Does this alternative require some sort of control or limit on use of the property?

If the answer to that question is "yes," then this guide should be used to evaluate how an IC would be established. Considering the pros and cons of establishing and maintaining ICs should be an integral part of the decision-making process in the selection of a restoration action. When ICs are used, they are a vital part of the remedy and must be maintained to protect human health and the environment. ICs are legal mechanisms, such as deed restrictions, and may be coupled with physical controls, such as signs posted at the site or fences. The control or notice mechanism will vary depending on the nature of the contamination, its location, the targeted land use, the structures located on the site, and the length of time for which the use is restricted.

During remedy selection, the nature and extent of specific limits placed on future property use should be discussed with the community and the LRA so that they may be considered in planning reuse of BRAC property.

Once remedy alternatives, including ICs, have been identified, the remedy selection process is applied to evaluate the alternative as a whole, including any ICs involved. For example, using the process under the National Contingency Plan (NCP) for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the BCT will develop a proposal on which the public and regulatory agencies will be invited to comment — both in writing and at a public meeting. A response to those comments will be prepared, and a response action selected. Throughout the remedy selection process, the ICs will be evaluated in the same manner as all other components of a potential remedy, as required by statute and Executive Order 12580. Stakeholders need to seriously consider and discuss all aspects of establishing, maintaining, and funding ICs as part of a remedy.

Two situations commonly occur in which ICs play an important role: (1) to protect the integrity of an engineering control intended to contain contamination, reduce its mobility, and minimize exposure, such as a landfill cap, and (2) to limit the exposure of individuals to residual contamination by limiting the reuse activities associated with that portion of the installation.

The information collected during the Remedial Investigation is used to determine if contamination is present and to characterize the site. In some cases, removing all contamination to allow unrestricted use of property may be very costly, the technology may be unavailable, or the time required to remediate and transfer the property may be prohibitive considering the community's reuse requirements for planned reuse and timing of property transfer.

The preferred remedy, protective of human health and the environment, sometimes requires that contaminants not be disturbed, leaving them in place. For example, the excavation of landfills can actually increase the risk to human health and the environment, in the short term, by exposing toxic contamination. One approach to reducing the long-term risk associated with such contamination left in place is to limit the uses to which that property will be put. The limit may be broad — for example, no residential occupancy — or it may be specific — for example, any activity involving the disturbance of soil must be approved in advance and any excavated soil must be disposed of properly.

During the remedy selection, the nature and extent of the specific limits placed on future property use should be discussed with the community and the LRA so that they may be considered in planning reuse of BRAC property. Although the final details, such as engineering plans, zoning plans, and certain longer-term ICs such as deed restrictions, will not be determined until the Remedial Design is developed, the Feasibility Study (FS) should provide as clear a description as possible of the nature of the anticipated restrictions. Another important element of the FS is the anticipated duration of the restriction. If the



restriction is limited to a relatively short period during the actual remediation, it will have a very different impact on reuse than a restriction that is anticipated to last for a longer period of time. Such a longer-term restriction, for example, might be a restriction on groundwater use until treatment or attenuation has reduced contaminant levels to below health-based standards or a restriction on surface use over a landfill cap.

The proposed plan outlines the preferred remedial alternative and summarizes the other alternatives considered in the FS. The proposed plan should be written in a manner that can be easily understood by the public. A clear statement of the restrictions associated with the proposed action should be included to allow the public to be fully informed about the proposed action and implications of using ICs if they are a part of that action. The remedy selection process under CERCLA and the Environmental Protection Agency's (EPA) position on the use of ICs are described in the National Contingency Plan (NCP) (40 CFR Part 300.430(a)(1)(iii)) and its preamble (55 FR 8706). Under the NCP, community acceptance is one of the nine criteria for selecting a CERCLA remedy. While community acceptance is an essential ingredient in making the final remedy selection, it is not always possible to accomplish all the community's goals. It is the Department of Defense's (DoD) responsibility to make the final remedy selection in accordance with applicable laws and requirements and to ensure that it will be protective of human health and the environment, as well as be compatible with, to the extent reasonably practicable, community reuse plans. This final remedy selection is formalized through the Record of Decision (ROD), which will be compatible with any ICs that may be implemented at the site.

When the Selected Response Includes Institutional Controls

Form a Team

When a selected response includes ICs, the team members (see box) involved in developing the future land use and evaluating response should work together to establish and maintain the selected ICs. Requirements for establishment and maintenance of ICs vary from site to site and are dependent on the real property and environmental cleanup laws and regulations of that jurisdiction. Cooperation, therefore, is essential to achieve success. That success depends on building a team that will be effective in using the tools available at that site and in that location.

Team members already should be a part of the process through their participation in groups such as those listed in the box below. Key members of these existing entities (although others may be consulted as necessary) should be part of the team developing a plan for the success of ICs at that site. It is important to build a team that works together to ensure the success of the response action and the effective reuse of the land.

Team Member	Potential Role in Establishing and Maintaining ICs
BRAC Cleanup Team	Identify the remaining contamination and associated risks at a site that requires ICs
Local Redevelopment Authority	Identify the intended use of the site consistent with the environmental condition of property that may require ICs, may assist in the establishment of ICs
Community Stakeholders (including the RAB)	Provide input and recommendations on establishing and maintaining ICs
Base Transition Coordinator	Facilitate the coordination of information on property reuse and transfer with cleanup activities, including establishment of ICs
Real Estate Attorney/Environmental Attorney	Develop deed language for restrictions; may assist in developing other ICs
Federal, State, and Local Government Officials	Establish, monitor, or enforce ICs
Identified Holders of Property Interest	Maintain a use of the site that is consistent with ICs



Establish Cooperation

Such success will be easier to achieve when the following commitments are made:

- The team makes a commitment to the success of ICs
- The team develops the skills needed to work together well
- Throughout the process, all team members make a commitment to open communication
- The team members maintain mutual trust, honor, and respect
- The team members accept responsibility, make decisions, take risks, and resolve issues
- The team makes decisions through consensus
- The team develops creative solutions and applies them to all problems
- The team maintains agreed-upon processes for resolving disagreements or disputes
- The team evaluates progress and recognizes successes

The Task of the Team

This guide identifies issues that may be relevant to any number of response actions. It does not suggest how to resolve specific issues, but offers tools that the team may find useful. It is up to the team establishing the ICs to develop and implement a plan that uses these and other tools and the resources available to them at that site to create an effective remedy.

**Checklist of Issues and Tools To Be Considered
When Establishing and Maintaining ICs**

The following questions should be asked when DoD and stakeholders discuss how to establish and maintain ICs.

Q. What are the ICs meant to accomplish?

What types of reuse are possible, given the environmental condition of property and/or the planned remedial activities?
For example:

TYPE(S) OF REUSE ALLOWED

- Residential
 - Housing
 - Daycare
 - Hospitals
 - Schools
 - Other
- Commercial
- Industrial
- Recreation
- Agricultural
- Other



What are the activities that must be restricted? For example:

SPECIFIC RESTRICTIONS

- Uses of ground and surface water
 - Prohibitions against drinking the water
 - Prohibitions against use of groundwater from existing wells
 - Prohibitions against any other use of the water (e.g., irrigation, watering livestock, or recreational uses, including fishing)
 - Restrictions to maintain the integrity of monitoring and reinjection wells
 - Other
- Use of soils
 - Prohibitions against excavation, construction, drilling, or disturbance of the soil (e.g., well installation that may connect an uncontaminated aquifer with a contaminated aquifer, or maintaining landfill cap)
 - Restrictions governing depth of excavation
 - Other
- Other ICs not directly related to the environmental response
 - Restrictions preserving historic or cultural areas
 - Restrictions protecting wildlife or wetlands
 - Restrictions governing access to the property (e.g., utility maintenance)

Q. What are the techniques and tools available to establish and maintain ICs?

TECHNIQUES: METHODS FOR ACCOMPLISHING THE GOALS OF THE ICs

- Layering:** Layering means the use of a strategy to combine mutually reinforcing controls, for example, a combination of deed restrictions, physical barriers, and notice can expand the number of parties involved and strengthen the network that maintains the remedy and protects human health and the environment. Many tools can be used at the same time and at various levels to accomplish that result. Different team members may have methods available to them that enhance maintenance of the remedy.
- Notice:** Providing notice that controls exist at a site is essential to maintain those controls and ensure that users of the property abide by them. The more people who are aware of and responsible for an IC, the easier it is to ensure that the controls will be heeded and maintained.

The more people who are aware of and responsible for an IC, the easier it is to ensure that the controls will be heeded and maintained.

TOOLS: SPECIFIC ACTIONS THAT CAN BE USED TO IMPLEMENT THESE TWO TECHNIQUES

- Deed Language:** Language in the deed is a good method of providing notice and generally will be an important part of any IC plan. The legal instrument and language used should be tailored to the requirements and processes that are best suited to the jurisdiction. The instrument, which may be separate from the deed, may be a covenant or easement or some other form of property right; however, before relying on any such right, the legality and enforceability of such a right in the jurisdiction must be determined. The legal instrument should provide a



stand-alone explanation of the restrictions and should cite the portions of the administrative record, regulations, and transfer documents that are relevant to establishing the restrictions. Language providing notice and describing the restrictions may also be included in the transfer documents.

Depending on state law, which may vary, and depending on the intentions of the parties to the original transaction and third parties who hold an interest in the land, deed language can be structured to give enforcement rights to the previous owner and to those third parties. Deed restrictions implementing ICs should be structured to run with the land — in other words, to remain in force despite changes in ownership; for example, by stating that the restrictions benefit the surrounding property and benefit the general public, or by stating that the parties intend the ICs to run with the land and bind future parties. State laws vary and the enforceability of deed restrictions should be considered carefully in structuring deed language. The more stakeholders that have authority to enforce a deed restriction, the more effective it will be as a method of control. In spite of any legal limits on the enforceability of deed language, a deed restriction is an important form of notice.

- Records and Community Involvement:** Other available methods of providing notice include the administrative record for the response action; local records like planning and zoning maps and subdivision plats; and similar state records and registries. Means of community education such as public meetings, recurring notices in— newspapers, and signs and fences also provide notice.
- Federal, state, and local laws and regulations:** Statutory authority under CERCLA and the Resource Conservation and Recovery Act (RCRA) may provide Federal and state regulators direct legal authority to protect human health and the environment, prevent releases, or control site activities. State and local governments may also play a role through already existing legal frameworks or regulatory programs such as permitting the use of land, monitoring public health through public health statutes, authorizing zoning and land use plans, passing ordinances, and acting under established statewide environmental programs. Such legal avenues can be integrated into an IC plan and provide notice that activities at the site in question are restricted.
- Inspections:** There may be inspections of the affected property associated with the selected remedy, generally as part of the remedy's operation and maintenance. Even though these inspections may not be intended for the purpose of monitoring an IC, they may provide an opportunity to assess activities at the site. For example, an inspection of monitoring wells may also provide an opportunity to establish compliance with an IC restricting excavation. Other existing inspection routines associated with regulatory programs not related to the remediation may also protect the site in question. While such inspections should not be confused with the ICs themselves, they can be used to assist in the maintenance of ICs. Such existing programs can be integrated into an IC plan in association with or in addition to the state and local laws and regulations listed above. The state and Federal members of the BCT may give the appropriate section or branch of the environmental regulatory agency or other pertinent agency notice of the IC or deed restriction by adding the organization's representative to the finding of suitability to transfer distribution list. In addition, the Federal government is required to review a remedy at least every five years, where contamination remains in place. Where ICs are part of the remedy, such reviews should include verification that the ICs are still in place and effective.
 - Remedy-specific environmental inspections (generally part of operation and maintenance of a remedy)
 - Inspections to ensure the integrity of the landfill cap
 - Inspections of the leachate treatment system
 - Inspections of the water treatment system
 - Other inspections required for operation and maintenance



- Other Federal, state, and local government inspections not directly related to the environmental response
 - Restrictions preserving historic or cultural areas
 - Restrictions protecting wildlife or wetlands
 - Restrictions governing access to the property (e.g., utility maintenance)
 - Restrictions concerning health
 - Restrictions concerning building standards
 - Other

Q. What are the responsibilities to maintain and ensure the effectiveness of ICs?

As a network for establishing an IC is created, it is also appropriate and necessary to discuss the associated responsibilities for maintaining its effectiveness. As previously noted, there are numerous existing statutory frameworks and regulatory programs at the Federal, state, and local levels that provide the authority to maintain the integrity of the remedy requirements. Stakeholders may need to discuss resources that are available or might be needed for certain ICs. They also need to discuss how long-term responsibilities for IC implementation at the site will be coordinated among team members.

- Statutory authority to enforce RCRA and CERCLA
- State and local, general or site-specific enforcement authorities that can be applied
 - Property laws
 - Zoning
 - Permitting programs
 - Other laws or ordinances
- Funding maintenance of the IC
- Long-term coordination responsibilities

Q. How is an IC modified or terminated?

ICs may also be modified or terminated over time. It is therefore useful to discuss what time frames, if known, and what procedures may be necessary for accomplishing these tasks. Due to the site-specific nature of IC plans, procedures for modifications to ICs may vary depending on that plan.

- Length of time ICs are needed
- Legal steps to remove or modify each IC
- Organizations that may be involved with modification or termination:
 - Federal government
 - State government
 - State court
 - Local government
 - Local court
 - Landowner
 - Adjacent landowner
 - Previous landowner



Where to Learn More

Further information on this and other BRAC issues can be found by reading:

- DoD's Future Land Use Policy: *Responsibility for Additional Environmental Cleanup after Transfer of Real Property* (July 1997)
- BRAC Environmental Program Fact Sheet: *Institutional Controls: What They Are and How Are They Used* (Spring 1997)
- BRAC Environmental Program Fact Sheet: *A Guide to Assessing Reuse and Remedy Alternatives at Closing Military Installations* (February 1996)
- *Fast Track to FOST: A Guide to Determining if Property is Environmentally Suitable for Transfer* (Fall 1996)
- *Partnering Guide for Environmental Missions of the Air Force, Army, and Navy* (July 1996)

Or by contacting:

Office of the Assistant Deputy Under Secretary of Defense
(Environmental Cleanup)
Attn: Fast-Track Cleanup
3400 Defense Pentagon
Washington, D.C. 20301-3400

Or by looking on the World Wide Web at:

<http://www.dtic.mil/envirodod/envbrac.html>

For additional information about selection of response actions, see the following EPA Office of Solid Waste and Emergency Response (OSWER) documents:

- *Land Use in CERCLA Remedy Selection Process*, OSWER Publication Number PB95-963234NDZ (June 1995)
- *Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions*, OSWER Publication Number 9355.0-30 (April 1991)
- *A Guide to Selecting Superfund Remedial Actions*, OSWER Publication Number 9355.0-27FS (April 1990)

These are available on the World Wide Web at:

<http://www.epa.gov/epa/oswer>

The *Guide to Establishing Institutional Controls at Closing Military Installations* was prepared with input from an inter-agency work group made up of representatives of the Office of the Secretary of Defense, the DoD Components, the U.S. EPA, the General Services Administration, the California EPA, the National Association of Attorneys General, the International City/County Management Association, the National Association of Installation Developers, and others. This guide is not a formal statement of DoD policy, but is meant to assist in the establishment and maintenance of ICs at BRAC properties.

Local reproduction of this fact sheet is authorized and encouraged.

ACQUISITION AND
TECHNOLOGY

THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-3010

JUL 25 1997



MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(INSTALLATIONS, LOGISTICS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE NAVY
(INSTALLATIONS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE AIR FORCE
(MANPOWER, RESERVE AFFAIRS, INSTALLATIONS AND
ENVIRONMENT)
DEPUTY UNDER SECRETARY OF DEFENSE
(ENVIRONMENTAL SECURITY)
DEPUTY UNDER SECRETARY OF DEFENSE
(INDUSTRIAL AFFAIRS AND INSTALLATIONS)
DIRECTOR, DEFENSE LOGISTICS AGENCY (D)

SUBJECT: Responsibility for Additional Environmental Cleanup after Transfer of Real Property

The purpose of the attached policy is to describe the circumstances under which DoD would perform additional cleanup on DoD property that is transferred by deed to any person or entity outside the federal government. This policy is applicable to real property under DoD control that is to be transferred outside the federal government, and is effective immediately. For property that is transferred pursuant to section 120(h)(3)(C) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 42 USC 9620(h)(3)(C)), this policy applies after the termination of the deferral period.

DoD continues to be committed to a remedy selection process that provides for full protection of human health and the environment, even after property has been transferred by DoD. The Deputy Under Secretary of Defense (Environmental Security) will issue separately any specific guidance needed to implement this policy. This policy should be read to be compatible with and does not supersede other related DoD policies, and is to be incorporated in the next revision of the appropriate DoD Instruction. I ask for your support in implementing this policy and working with communities so that they can make informed decisions in developing their redevelopment plans.

R. Noel Longuemare
Acting Under Secretary of Defense
(Acquisition and Technology)

Attachment



Policy on Responsibility for Additional Environmental Cleanup

DoD Policy on Responsibility for Additional Environmental Cleanup After Transfer of Real Property

Background. This policy is instituted within the framework established by land use planning practices and land use planning authorities possessed by communities, and the environmental restoration process established by statute and regulation. The land use planning and environmental restoration processes – two separate processes – are interdependent. Land use planners need to know the environmental condition of property in order to make plans for the future use of the land. Similarly, knowledge of land use plans is needed in order to ensure that environmental restoration efforts are focused on making the property available when needed by the community and that remedy selection is compatible with land use. This policy does not supplant either process, but seeks to integrate the two by emphasizing the need to integrate land use planning assumptions into the cleanup, and to notify the community of the finality of the cleanup decisions and limited circumstances under which DoD would be responsible for additional cleanup after transfer.

Cleanup Process. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 42 USC 9601 et seq.) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 CFR 300) establish the requirements and procedures for the cleanup of sites that have been contaminated by releases of hazardous substances. CERCLA, furthermore, requires that a deed for federally owned property being transferred outside the government contain a covenant that all remedial action necessary to protect human health and the environment has been taken, and that the United States shall conduct any additional remedial action "found to be necessary" after transfer. Within the established restoration process, it is DoD's responsibility, in conjunction with regulatory agencies, to select cleanup levels and remedies that are protective of human health and the environment. The environmental restoration process also calls for public participation, so that the decisions made by DoD and the regulatory agencies have the benefit of community input.

Land Use Assumptions in Cleanup Process. Under the NCP, future land use assumptions are developed and considered when performing the baseline risk assessment, developing remedial action alternatives, and selecting a remedy. The NCP permits other-than-residential land use assumptions to be considered when selecting cleanup levels and remedies, so long as selected remedies are protective of human health and the environment. The U.S. Environmental Protection Agency (EPA) further amplified the role of future land use assumptions in the remedy selection process in its May 25, 1995, "Land Use in the CERCLA Remedy Selection Process" directive (OSWER Directive No. 9355.7-04).

Development of Land Use Plans. By law, the local community has been given principal responsibility for reuse planning for surplus DoD property being made available at Base Realignment and Closure (BRAC) installations. That reuse planning and implementation authority is vested in the Local Redevelopment Authority (LRA) described in the DoD Base Reuse Implementation Manual (DoD 4165.66-M). The DoD Base Reuse Implementation Manual calls for the LRA to develop the community redevelopment plan to reflect the long term needs of the community. A part of the redevelopment plan is a "land use plan" that identifies the proposed land use for given portions of the surplus DoD property. The DoD is committed to working with local land use planning authorities, local government officials, and the public to develop realistic assumptions concerning the future use of property that will be transferred by DoD. The DoD will act on the expectation that the community land use plan developed by the LRA reflects the long-range regional needs of the community.

Use of Land Use Assumptions in the Cleanup Process. DoD environmental restoration efforts for properties that are to be transferred out of federal control will attempt, to the extent reasonably practicable, to facilitate the land use and redevelopment needs stated by the community in plans approved prior to the remedy selection decision. For BRAC properties, the LRA's redevelopment plan, specifically the land use plan, typically will be the basis for the land use assumptions DoD will consider during the remedy selection process. For non-BRAC property transfers, DoD environmental restoration efforts will be similarly guided by community input on land use, as provided by the local government land use planning agency. In the unlikely event that no community land use plan is available at the time a remedy selection decision requiring a land use assumption must be made, DoD will consider a range of reasonably likely future land uses in the remedy selection process. The existing land use, the current zoning classification (if zoned by a local government), unique property attributes, and the current land use of the surrounding area all may serve as useful indicators in determining likely future land uses. These likely future land uses then may be used for remedy selection decisions which will be made by DoD (in conjunction with regulatory agencies) in accordance with CERCLA and the NCP.

DoD's expectation is that the community at-large, and in particular the land use planning agency, will take the environmental condition of the property, planned remedial activities, and technology and resource constraints into consideration in developing their reuse plan. The February 1996 "Guide to Assessing Reuse and Remedy Alternatives at Closing Military Installations" provides a useful tool for considering various possible land uses and remedy alternatives, so that cost and time implications for both processes can be examined and integrated. Obviously, early development of community consensus and publication of the land use plan by the LRA or the land planning agency will provide the stability and focus for DoD cleanup efforts.

Applicable guidelines in EPA's May 25, 1995, "Land Use in the CERCLA Remedy Selection Process" Directive should be used in developing cleanup decisions using land use assumptions. For a remedy that will require restrictions on future use of the land, the proposed plan and record of decision (ROD) or other decision documents must identify the future land use assumption that was used to develop the remedy, specific land use restrictions necessitated by the selected remedy, and possible mechanisms for implementing and enforcing those use restrictions. Examples of implementation and enforcement mechanisms include deed restrictions, easements, inspection or monitoring, and zoning. The community and local government should be involved throughout the development of those implementation and enforcement mechanisms. Those mechanisms must also be valid within the jurisdiction where the property is located.

Enforcement of Land Use Restrictions. The DoD Component disposal agent will ensure that transfer documents for real property being transferred out of federal control reflect the use restrictions and enforcement mechanisms specified in the remedy decision document. The transfer document should also include a description of the assumed land use used in developing the remedy and the remedy decision. This information required in the transfer documents should be provided in the environmental Finding Of Suitability to Transfer (FOST) prepared for the transfer. The DoD Component disposal agent will also ensure that appropriate institutional controls and other implementation and enforcement mechanisms, appropriate to the jurisdiction where the property is located, are either in-place prior to the transfer or will be put in place by the transferee as a condition of the transfer. If it becomes evident to the DoD Component that a deed restriction or other institutional control is not being followed, the DoD Component will attempt to ensure that appropriate actions are taken to enforce the deed restriction.

The DoD expects the transferee and subsequent owners to abide by restrictions stated in the transfer documents. The DoD will reserve the right to enforce deed restrictions and other institutional controls, and the disposal agent will ensure that such language is also included in the transfer documents. If DoD becomes aware of action or inaction by any future owner that will cause or threaten to cause a

Policy on Responsibility for Additional Environmental Cleanup

release or cause the remedy not to perform effectively, DoD also reserves the right to perform such additional cleanup necessary to protect human health and the environment and then to recover costs of such cleanup from that owner under the terms of the transfer document or other authority.

Circumstances Under Which DoD Would Return to do Additional Cleanup. A determination may be made in the future that the selected remedy is no longer protective of human health and the environment because the remedy failed to perform as expected, or because an institutional control has proven to be ineffective, or because there has been a subsequent discovery of additional contamination attributable to DoD activities. This determination may be made by DoD as a part of the remedy review process, or could be a regulatory determination that the remedy has failed to meet remediation objectives. In these situations, the responsible DoD Component disposing of the surplus property will, consistent with CERCLA Section 120(h), perform such additional cleanup as is both necessary to remedy the problem and consistent with the future land use assumptions used to determine the original remedy. Additionally, after the transfer of property from DoD, applicable regulatory requirements may be revised to reflect new scientific or health data and the remedy put in place by DoD may be determined to be no longer protective of human health and the environment. In that circumstance, DoD will likewise, consistent with CERCLA Section 120(h), return to perform such additional cleanup as would be generally required by regulatory agencies of any responsible party in a similar situation. Also note that DoD has the right to seek cost recovery or contribution from other parties for additional cleanup required for contamination determined not to have resulted from DoD operations.

Circumstance Under Which DoD Would Not Return to do Additional Cleanup. Where additional remedial action is required only to facilitate a use prohibited by deed restriction or other appropriate institutional control, DoD will neither perform nor pay for such additional remedial action. It is DoD's position that such additional remedial action is not "necessary" within the meaning of CERCLA Section 120(h)(3). Moreover, DoD's obligation to indemnify transferees of closing base property under Section 330 (of the Fiscal Year 1993 Defense Authorization Act) would not be applicable to any claim arising from any use of the property prohibited by an enforceable deed restriction or other appropriate institutional control.

Changes to Land Use Restrictions after Transfer. Deed restrictions or other institutional controls put in place to ensure the protectiveness of the remedy may need to be revised if a remedy has performed as expected and cleanup objectives have been met. For example, the specified groundwater cleanup levels have been reached after a period of time. In such a case, the DoD Component disposing of the surplus property will initiate action to revise the deed restrictions or other institutional controls, as appropriate.

DoD will also work cooperatively with any transferee of property that is interested in revising or removing deed restrictions in order to facilitate a broader range of land uses. Before DoD could support revision or removal, however, the transferee would need to demonstrate to DoD and the regulators, through additional study and/or remedial action undertaken and paid for by the transferee, that a broader range of land uses may be undertaken consistent with the continued protection of human health and the environment. The DoD Component, if appropriate, may require the transferee to provide a performance bond or other type of financial surety for ensuring the performance of the additional remedial action. The transferee will need to apply to the DoD Component disposal agent for revision or removal of deed restrictions or other institutional controls. Effective immediately, the process for requesting the removal of such restrictions by a transferee should be specified by the disposal agent in the documents transferring property from DoD.

Making those revisions or changes will be considered by DoD to be an amendment of the remedy decision document. Such an amendment will follow the NCP process and require the participation by DoD and regulatory agencies, as well as appropriate public input.

Disclosure by DoD on Using Future Land Use in Remedy Selection. A very important part of this policy is that the community be informed of DoD's intent to consider land use expectations in the remedy selection process. At a minimum, disclosure shall be made to the Restoration Advisory Board (or other similar community group), the LRA (if BRAC) or other local land use planning authority, and regulatory agencies. The disclosure to the community for a specific site shall clearly communicate the basis for the decision to consider land use, any institutional controls to be relied upon, and the finality of the remedy selection decision, including this policy. In addition, any public notification ordinarily made as part of the environmental restoration process shall include a full disclosure of the assumed land use used in developing the remedy selected.

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MANAGEMENT GUIDANCE
for the
DEFENSE ENVIRONMENTAL
RESTORATION PROGRAM



Office of the Deputy Under Secretary of Defense
(Installations and Environment)

ODUSD(I&E)

September 2001

9.8.3.2.3. The unsafe condition was present when the property was transferred from DoD control; and

9.8.3.2.4. No subsequent owner of the property has made beneficial use of the building or structure.

9.9. The following activities shall not be conducted with those funds requested for environmental restoration purposes that were appropriated to the ER-FUDS account:

9.9.1. Installation Restoration, Military Munitions Response, or Building Demolition/Debris Removal program category activities at ineligible properties.

9.9.2. Installation Restoration, Military Munitions Response, or Building Demolition/Debris Removal program category activities for ineligible projects.

9.9.3. Installation Restoration, Military Munitions Response, or Building Demolition/Debris Removal program category activities to address releases that are solely a result of an act of war.

9.9.4. The payment of environmental fines or other penalties without specific congressional approval to do so.

9.10. Property or project closeout at a FUDS occurs when all removal or remedial responses are complete and no subsequent removal or remedial responses are required, or the FUDS was classified as "No Defense Action Indicated." USACE shall consult with ODUSD(I&E), Headquarters Department of the Army, appropriate federal, state, or tribal regulators, and the local community on FUDS closeouts.

9.11. Restoration Advisory Boards (RABs) at FUDS.

9.11.1. In general, the criteria for determining community interest in establishing a RAB at an operating installation also apply to FUDS. It is, however, recognized that there may be circumstances when the establishment of a RAB at a FUDS is impractical, including when:

9.11.1.1. The FUDS property owner objects to the establishment of a RAB;

9.11.1.2. The project duration is so short so as to make RAB establishment infeasible;

9.11.1.3. The property is in a remote location where there is no community nearby; or

9.11.1.4. All major environmental decisions for all properties have already been made.

9.11.2. When a RAB is not established, a memorandum for the record signed by the USACE military district commander will document the rationale. This memorandum for the record shall be included in the Administrative Record.

9.12. At a FUDS property, the level of environmental restoration will be consistent with statutory and regulatory requirements. It is subject to restrictions placed on land use at the time of transfer from DoD control and may consider any land uses reasonably anticipated at the time of the remedy selection. DoD would not anticipate conducting further environmental restoration activities based solely on changes in land use initiated by current property owners that would be inconsistent with the previous remediation conducted by DoD or land use restrictions attached to the property.

10. COMMUNITY INVOLVEMENT

10.1. It is DoD policy to involve the local community in the environmental restoration process as early as possible and to seek continued community involvement throughout the environmental restoration process.

10.2. Each installation or FUDS will develop a Community Relations Plan defining the comprehensive stakeholder involvement program that will be implemented during the course of environmental restoration activities. A Community Relations Plan will also address the applicable requirements of EO 12898,

Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994). The installation shall ensure the scope of, and level of detail contained in, the Community Relations Plan is commensurate with the extent and duration of the environmental restoration activities. In this assessment, the installation shall ensure the CRP:

- 10.2.1. Meets the specific requirements for community involvement under the NCP;
- 10.2.2. Reflects input gained through interviews with a sufficient number of persons to represent the diversity of the community;
- 10.2.3. Provides analysis of the impacts of the environmental restoration activities on the community;
- 10.2.4. Evaluates the degree and nature of community concerns or interest in the restoration activities;
- 10.2.5. Identifies and considers environmental justice issues (i.e., issues associated with minority and economically disadvantaged populations) in the community surrounding the installation or FUDS;
- 10.2.6. Identifies appropriate and required mechanisms for disseminating information to the public (e.g., local media, public meetings, websites); and
- 10.2.7. Contains strategies for providing opportunities for community participation in the program.

10.3. Each installation or FUDS shall designate a point of contact (POC) for environmental restoration activities. The POC shall be identified to the local community through appropriate means (e.g., a newspaper notice) and will serve as the entry point for community inquiries or comments. Installations shall also provide the community the name of a POC at the installation's or FUDS' Headquarters organization.

10.4. As required by CERCLA and the NCP, each installation or FUDS shall establish an Information Repository. The Information Repository provides the public with a single reference source for information about environmental restoration activities at an installation or FUDS. Because it is intended for use by the public, the Information Repository shall be at a location near the site, a location that is easily accessible to the public, and that will make the information available for inspection at times convenient to the public. The Information Repository shall, at a minimum, include a copy of the Administrative Record (the documents that form the basis or the selection of a response action) for the installation or FUDS as required under the NCP.²³ The Information Repository may also contain other documents pertinent to the activities at the installation or FUDS.

10.5. Information on environmental restoration activities shall be made available to the public in a timely manner using appropriate mechanisms for disseminating information to the public (e.g., local media, public meetings, websites). Such mechanisms shall be identified in the Community Relations Plan and used in a consistent manner. Draft Final versions of documents that are considered the equivalent of primary documents as defined in Federal Facility Agreements (FFAs) or other regulatory instruments shall be placed in Information Repositories at the same time that these documents are provided to regulatory agencies for review. The availability of these documents shall be announced to the public.²⁴

²³ Some contents of the centrally maintained Administrative Record need not be included in the Information Repository. Sampling and testing data, quality control and quality assurance documentation, chain of custody forms, guidance documents not generated specifically for the site, and publicly available technical literature not generated for the site are examples of the types of documents that an installation or FUDS need not include in the Information Repository, provided that the index to the Administrative Record indicates the location and availability of this information. Documents included in the confidential portion of the administrative record also need not be included in the Information Repository.

²⁴ Where there is litigation addressing environmental restoration activities, Component legal staff shall be consulted on the appropriate or required means for providing documents to the other party.

10.6. Stakeholders shall be given opportunity for involvement in updating the installation or FUDS Management Action Plan (MAP) or equivalent, except for updates to elements that include government cost estimates for future procurement actions.

10.7. Each installation or FUDS shall establish a Restoration Advisory Board (RAB) where there is sufficient and sustained community interest. A RAB fulfills the requirements of 10 USC §2705(c), which directs DoD to establish Technical Review Committees (TRC). Where TRCs or similar advisory groups already exist, the TRC or similar advisory group shall be considered for conversion to a RAB, provided there is sufficient and sustained interest within the community. Only one RAB or TRC will be recognized per installation. Where RABs are not formed initially, installations shall reassess community interest at least every 24 months. Where the reassessment finds sufficient and sustained community interest, the installation or FUDS shall establish a RAB. Where the reassessment does not find sufficient and sustained community interest in a RAB, the installation or FUDS shall document, in a memorandum for the record, the procedures followed in the reassessment and the findings of the reassessment. This document shall be included in the Administrative Record for the installation or FUDS.

10.7.1. The purpose of the RAB is to:

10.7.1.1. Act as a forum for the discussion and exchange of restoration program information between agencies and the community.

10.7.1.2. Provide an opportunity for RAB members to review progress and participate in a dialogue with the installation's decision makers. Installations shall consider the recommendations provided by the RAB, including advice given that represents the minority view of members. Because DoD does not intend for Federal Advisory Committee Act (FACA) requirements to apply to RABs, consensus is not a prerequisite for RAB recommendations. Each individual provides advice as an individual, not as a group.

10.7.2. Each RAB shall develop and formally document its operating procedures. These procedures shall include, at a minimum:

10.7.2.1. Clearly defined goals and objectives for the RAB;

10.7.2.2. Attendance requirements;

10.7.2.3. Development and approval procedures for the minutes of RAB meetings;

10.7.2.4. The meeting frequency and location;

10.7.2.5. Rules of Order;

10.7.2.6. The frequency and procedures for conducting training;

10.7.2.7. Procedures for selecting or replacing co-chairs and selecting, replacing, or adding other members;

10.7.2.8. Specifics on the size of the RAB membership and the periods for membership and co-chair length of service;

10.7.2.9. Methods for resolving disputes;

10.7.2.10. The process for reviewing and responding to public comments on issues being addressed by the RAB; and

10.7.2.11. Procedures for public participation in RAB activities.

10.7.3. In developing these operating procedures, the RAB must consider and incorporate the following:

10.7.3.1. The RAB must be comprised of representatives of the Component, members of the local community, and representatives from EPA, state regulatory agencies, tribal, or local governments, as appropriate. DoD shall ensure that members reflect the diverse interests within the community.

10.7.3.2. The RAB must be chaired jointly by a representative of the Component and the local community. The community co-chair will be selected by the community members serving on the RAB.

10.7.3.3. A RAB is not subject to the requirements of the FACA; however, all RAB meetings, correspondence, discussions and proceedings shall be conducted in public, and no member of the public will be denied access (unless there is cause for concern for the safety of those involved with the RAB meetings). Documents related to RAB proceedings or communications will be included in the Information Repository and the Administrative Record.

10.7.3.4. A RAB may only address issues associated with environmental restoration activities under the DERP. Environmental groups or advisory boards that address issues other than environmental restoration activities are not RABs.

10.7.3.5. Subject to the availability of funds, funds requested for environmental restoration activities that were appropriated to Components' ER or BRAC accounts or the ER-FUDS account may be used to provide administrative support to RABs. Such funds shall not be used to support the activities of environmental groups or advisory boards in addressing issues other than environmental restoration activities. The activities of the RAB and expenditures of such funds for administrative expenses shall be reported to ODUSD(I&E), at a minimum, on an annual basis. Appendix 5 provides examples of eligible and ineligible RAB expenses.

10.7.3.6. Each installation is required to report regularly on the status and impact of the RAB to the installation's or FUDS' environmental restoration program. The RAB should consider means to assist the installation with this reporting requirement.

10.7.4. An installation commander may adjourn a RAB when there is no longer a need for a RAB or when community interest in the RAB declines. In making such a decision, if environmental restoration activities are not complete, the installation commander shall ensure that the community involvement program detailed in the Community Relations Plan provides for continued effective stakeholder input.

10.7.4.1. RAB adjournment shall not be an independent, unilateral evaluation on the part of DoD. The installation commander shall discuss adjournment with regulators and the community as a whole before making a final decision.

10.7.4.1.1. If a decision to adjourn the RAB is made, the rationale for adjournment shall be formally documented and the community as a whole notified of the decision.

10.7.4.1.2. An installation may reestablish an adjourned RAB if there is sufficient and sustained community interest in doing so and there are environmental restoration activities still ongoing at the installation.

10.7.4.2. Where a RAB is adjourned and environmental restoration activities continue, the installation or FUDS shall reassess community interest at least every 24 months. Where the reassessment finds sufficient and sustained community interest, the installation or FUDS shall reestablish a RAB. Where the reassessment does not find sufficient and sustained community interest in reestablishing the RAB, the installation or FUDS shall document (in a memorandum for the record) the procedures followed in the reassessment and the findings of the reassessment. This document shall be included in the Administrative Record for the installation or FUDS.

10.7.5. Although installation commanders are expected to make every reasonable effort to ensure that a RAB performs its role as efficiently as possible, circumstances may prevent a RAB from operating

efficiently or fulfilling its intended purpose. When this occurs, the installation commander will make a concerted attempt to resolve the issues that impact the RAB's effectiveness. If unsuccessful, the installation commander may elect to dissolve the RAB. Where an installation commander elects to dissolve a RAB, the installation commander shall:

10.7.5.1. Ensure that the comprehensive stakeholder involvement program is providing sufficient opportunities for the community to provide input on environmental restoration activities.

10.7.5.2. Notify, through the command chain, the Component's Environmental Deputy Assistant Secretary (or equivalent) and ODUSD(I&E) of the status of the RAB, the specifics of the irreconcilable issues, and the intent to dissolve the RAB.

10.7.5.3. In consultation with EPA, state, tribal, or local government representatives, as appropriate, notify the RAB community co-chair and members in writing of the intent to dissolve the RAB and the reasons for doing so, and provide RAB members 30 days to respond in writing.

10.7.5.4. Consider RAB member responses, and in consultation with EPA, state, tribal, or local government representatives, as appropriate, determine the appropriate action.

10.7.5.4.1. If a decision is made to proceed with dissolution, notify the public of the proposal to dissolve the RAB and provide a 30-day public comment period on the proposal.

10.7.5.4.2. If the dissolved RAB will be reconstituted, provide details to the public of the process by which that will happen and provide a 30-day public comment period on the proposal.

10.7.5.5. At the conclusion of the public comment period, review public comments, consult with EPA, state, tribal, or local government representatives, as appropriate, and render a recommendation.

10.7.5.6. Notify the public of the recommendation, and forward all documentation to the Component's Environmental Deputy Assistant Secretary (or equivalent) for approval or disapproval.

10.7.5.7. The Component's Environmental Deputy Assistant Secretary (or equivalent) shall notify ODUSD(I&E) of the decision to approve or disapprove the request to dissolve the RAB, and the rationale for that decision.

10.7.5.8. The installation commander shall notify the public of the approval or disapproval of the dissolution of a RAB through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation.

10.8. Information on the activities of a RAB including, but not limited to, documenting the installation's efforts to survey community interest in forming a RAB, steps taken to establish a RAB where there is sustained community interest, how the RAB relates to the overall community involvement program, and steps taken to adjourn the RAB, shall be included in the Information Repository. To the extent that RAB input is considered in a decision regarding response activities, information about the RAB shall be included in the Administrative Record.

10.9. Technical Assistance for Public Participation (TAPP).

10.9.1. Opportunities for technical assistance through DoD's TAPP program shall be made available to community members of RABs or TRCs in accordance with 10 USC §2705(e) and the TAPP regulations found at 32 CFR Part 203. Community members of a RAB may request from an installation's commanding officer, or appropriate DoD official, technical assistance from private-sector sources. (See Appendix 6 for a list of eligible and ineligible TAPP activities.)

10.9.2. Only community members (not government members) of RABs and TRCs may ask for TAPP support on behalf of the community members of the RAB. Any request for TAPP must represent the wishes of the majority of the community members of the RAB/TRC, and the RAB/TRC must certify this to be true on the TAPP application (see Appendix 7). The RAB/TRC requesting assistance must be recognized by the Component.

10.9.3. TAPP Funding.

10.9.3.1. A TAPP will be funded from the appropriate Component ER or BRAC accounts or the ER-FUDS account. TAPP is categorized as a program administration cost. There is no guaranteed or automatic TAPP funding allocation per installation and no separate account.

10.9.3.2. TAPP funding may not exceed \$100,000 over the life of the restoration program at the installation. The limit for a single fiscal year is \$25,000, or 1 percent of the installation's total projected environmental restoration cost-to-complete, whichever is less.

10.9.3.3. Waivers to the \$100,000 total and \$25,000 annual funding limits may be approved by the Component's Environmental Deputy Assistant Secretary (or equivalent). Requests for waivers are initiated by the RAB/TRC community members and forwarded by endorsement with recommendations by the installation commander through the chain-of-command to the Component's Environmental Deputy Assistant Secretary (or equivalent).

10.9.4. In the event that a dispute arises concerning the approval of a TAPP request, the RAB/TRC community members may appeal DoD's decision. Appeals will be considered within the chain-of-command, and in general, will be resolved at the lowest possible level. The highest level of appeal will be at the Component's Environmental Deputy Assistant Secretary (or equivalent).

10.9.5. The fact that a community has received Technical Assistance Grants (TAG) or Technical Outreach Services to Communities (TOSC) from EPA does not preclude them from getting a TAPP award. These other sources of funds are, however, relevant considerations during the decision process.

10.9.6. Each RAB/TRC that receives a TAPP award must submit an annual TAPP Results Report to the installation. The installation will forward this report to the installation's Headquarters. This report will indicate:

10.9.6.1. The amount of TAPP funds obligated by fiscal year.

10.9.6.2. An evaluation for each project concerning whether the TAPP assisted the community in participating in the restoration program.

11. RELATIONSHIPS WITH OTHER GOVERNMENT AGENCIES

11.1. DoD is fully committed to the substantive involvement of EPA, appropriate current and prospective federal land managers, other appropriate federal agencies, states, and tribes, and the public throughout the environmental restoration process. Components responsible for environmental restoration activities shall take proactive steps to identify and address issues of concern to all stakeholders. These efforts have the overall goal of ensuring that decisions regarding environmental restoration activities reflect a broad spectrum of stakeholder input.

11.2. Pursuant to the delegation of certain Presidential authorities under CERCLA to the Secretary of Defense (delegated via EO 12580, *Superfund Implementation* (January 23, 1986) and EO 13016 *Superfund Amendments* (August 28, 1996)), DoD is the lead agency for environmental restoration activities under the DERP. Per DoDI 4715.7, the Secretaries of the Military Services have been further delegated these authorities (subject to the concurrent authority of the Under Secretary of Defense, Acquisition, Technology, and Logistics (USD(AT&L)) and the DUSD(I&E)) to execute the DERP. In the exercise of this authority and responsibility, Components shall:

**DOD GUIDANCE ON IMPROVING PUBLIC
INVOLVEMENT IN ENVIRONMENTAL
CLEANUP AT CLOSING BASES**

I. PURPOSE

This guidance implements the President's plan to expedite the closure and reuse of closing military bases. This guidance directs the Components to involve the community near a closing base in the cleanup program by making information available, providing opportunities for comment, and establishing and seeking public participation on a Restoration Advisory Board (RAB).

II. APPLICABILITY AND SCOPE

This guidance applies to all Department of Defense (DoD) bases being closed or realigned pursuant to the Base Closure and Realignment Act of 1988 (P.L. 100-526) (BRAC 88) or the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510) (BRAC 91, 93 and 95) and where property will be available for transfer to the community. The policy explains DoD intent in establishment of RABs, fundamental responsibilities of the RAB, and procedures for the RAB.

III. POLICY

It is DoD policy to:

- A. Be open, cooperative and forthright with the public concerning environmental cleanup activities and to make information on program activities available in a timely manner.
- B. Provide opportunities for and encourage public comment on documents and proposed activities and to be responsive to comments.
- C. Establish a RAB at closing and realigning bases where property will be available for transfer to the community. The RAB will work in partnership with the Base Realignment and Closure (BRAC) Cleanup Team (BCT) on cleanup issues and related matters. Through the RAB, stakeholders may review progress and provide input to the decision making process. BRAC installations not transferring property to the community should follow the same guidelines for establishing RABs as operational bases.

IV. PROCEDURES AND RESPONSIBILITIES

A. PROCEDURES

1. A RAB will be established at each closing and realigning base where property will be available for transfer to the community. The RAB will:
 - a. be comprised of DoD Component, United States Environmental Protection Agency (EPA) and state representatives and members of the local community;
 - b. be jointly chaired by a DoD Component representative (the BRAC Environmental Coordinator [BEC]) and a member of the local community;
 - c. meet the requirements of 10 USC Section 2705 (c), Department of Defense Environmental Restoration Program, which directs DoD to establish Technical Review Committees (TRC). Where TRCs or other similar groups already exist, they shall be expanded or modified to become RABs, rather than creating a separate committee.

3. Ensuring DoD Base Transition Coordinators (BTC) and BRAC Environmental Coordinators (BEC) are involved in the NEPA analysis process for their installations.
4. Establishing adequate procedures to provide information on the NEPA analysis process and actions so as to permit meaningful community and public participation in the process.

2. The DoD Components will seek to include on the RAB members who reflect diverse interests within the community (e.g. the Local Redevelopment Authority, representatives of citizen, environmental and public interest groups; local government and individual community members). The membership selection process will be conducted in a fair and open manner, ideally by a community selection panel. The DoD Components should accept the panels nominations unless it determines that the nominees would not reflect the full range of views within the community.
3. A point-of-contact for cleanup information shall be identified at the installation level (normally the BEC). A second point-of-contact (e.g., at higher headquarters) to resolve problems in obtaining information shall also be identified.
4. Information on cleanup activities, such as draft and final technical documents, proposed and final plans, status reports, etc., will be provided to the RAB and made available to the public in a timely manner. Public comments will be actively solicited and considered before documents are finalized.
5. Vehicles for disseminating information such as public meetings, bulletins, and central repositories shall be identified and used consistently.

B. RESPONSIBILITIES

1. The DoD Components shall:
 - a. Ensure that the policies stated in this memorandum are implemented by their respective organizations;
 - b. Ensure that administrative support is available to establish RABs and conduct public outreach;
 - c. Conduct oversight of public outreach activities.
 - d. Ensure that:
 - i. community relations plans are developed or revised to reflect these policies;
 - ii. RABs are established expeditiously and that their inputs are fully considered in decision making in the cleanup program; and
 - iii. installation public affairs staff are involved in public outreach activities of the cleanup program.
2. The RAB will:
 - a. act as a forum for discussion and exchange of cleanup information between Government agencies and the public;
 - b. conduct regular meetings, open to the public, at convenient times;
 - c. keep meeting minutes and make them available to the public;
 - d. develop and maintain a mailing list of names and addresses of stakeholders who wish to receive information on the cleanup program;
 - e. review and evaluate documents;

Guidance and Policies on Fast Track Cleanup at Closing Installations

- f. identify project requirements;
- g. recommend priorities among sites or projects;
- h. identify applicable standards and, consistent with Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), propose remedies consistent with planned land use.



A Citizen's Guide to Natural Attenuation

Technology Innovation Office

Technology Fact Sheet

What is natural attenuation?

Natural attenuation makes use of natural processes to contain the spread of contamination from chemical spills and reduce the concentration and amount of pollutants at contaminated sites. Natural attenuation—also referred to as *intrinsic remediation*, *bioattenuation*, or *intrinsic bioremediation*—is an *in situ* treatment method. This means that environmental contaminants are left in place while natural attenuation works on them. Natural attenuation is often used as one part of a site cleanup that also includes the control or removal of the source of the contamination.

How does natural attenuation work?

The processes contributing to natural attenuation are typically acting at many sites, but at varying rates and degrees of effectiveness, depending on the types of contaminants present, and the physical, chemical and biological characteristics of the soil and ground water. Natural attenuation processes are often categorized as *destructive* or *non-destructive*. Destructive processes destroy the contaminant. Non-destructive processes do not destroy the contaminant but cause a reduction in contaminant concentrations.

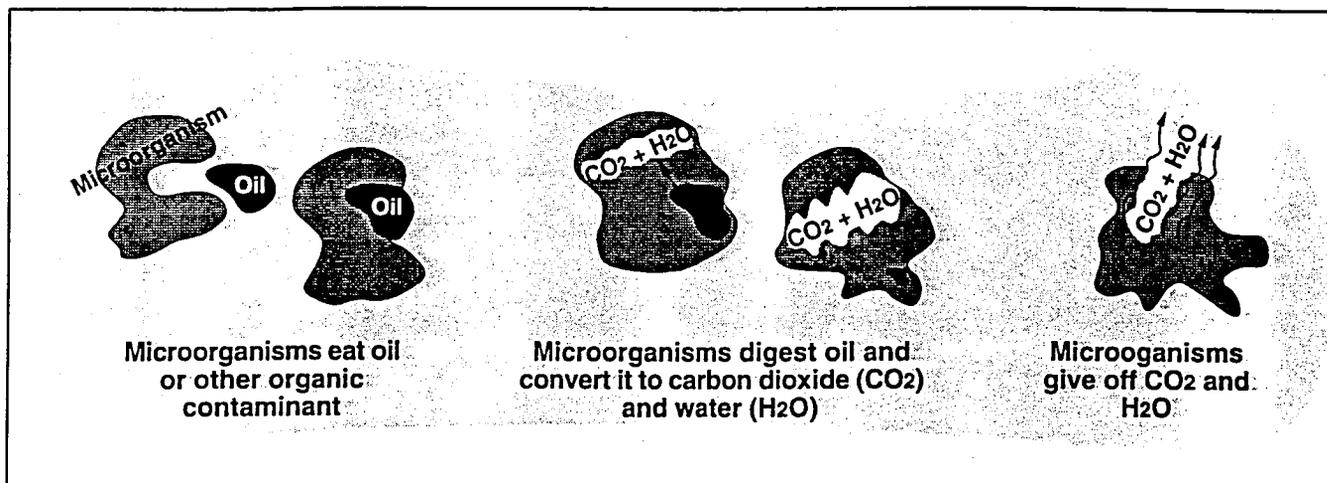
Natural attenuation processes may reduce contaminant mass (through destructive processes such as **biodegradation** and chemical transformations); reduce contaminant concentrations (through simple **dilution** or **dispersion**); or bind contaminants to soil particles so the contamination does not spread or migrate very far (**adsorption**).

Biodegradation, also called bioremediation, is a process in which naturally occurring microorganisms (yeast, fungi, or bacteria) break down, or *degrade*, hazardous substances into less toxic or nontoxic substances. Microorganisms, like humans, eat and digest organic substances for nutrition and energy. (In chemical terms, “organic” compounds are those that contain carbon and hydrogen atoms.) Certain microorganisms can digest organic substances such as fuels or solvents that are hazardous to humans. Biodegradation can occur in the presence of oxygen (aerobic conditions) or without oxygen (anaerobic conditions). In most subsurface environments, both aerobic and anaerobic biodegradation of contaminants occur. The microorganisms break down the organic contaminants into harmless products—mainly carbon dioxide and water in the case of aerobic biodegradation (Figure 1). Once the contaminants are degraded, the

A Quick Look at Natural Attenuation

- Uses naturally occurring environmental processes to clean up sites.
- Is non-invasive and allows the site to be put to productive use while being cleaned up.
- Requires careful study of site conditions and monitoring of contaminant levels.

Figure 1. Schematic Diagram of Aerobic Biodegradation in Soil



microorganism populations decline because they have used their food sources. Dead microorganisms or small populations in the absence of food pose no contamination risk. The fact sheet entitled *A Citizen's Guide to Bioremediation* describes the process in detail (see page 4).

Many organic contaminants, like petroleum, can be biodegraded by microorganisms in the underground environment. For example, biodegradation processes can effectively cleanse soil and ground water of hydrocarbon fuels such as gasoline and the BTEX compounds—benzene, toluene, ethylbenzene, and xylenes. Biodegradation also can break down chlorinated solvents, like trichloroethylene (TCE), in ground water but the processes involved are harder to predict and are effective at a smaller percentage of sites compared to petroleum-contaminated sites. Chlorinated solvents, widely used for degreasing aircraft engines, automobile parts, and electronic components, are among the most often-found organic ground-water contaminants. When chlorinated compounds are biodegraded, it is important that the degradation be complete, because some products of the breakdown process can be more toxic than the original compounds.

The effects of **dilution** and **dispersion** appear to reduce contaminant concentration but do not destroy the contaminant. Relatively clean water from the ground surface can seep underground to mix with and dilute contaminated ground water. Clean ground water from an underground location flowing into

contaminated areas, or the dispersion of pollutants as they spreading out away from the main path of the contaminated plume also lead to a reduced concentration of the contaminant in a given area.

Adsorption occurs when contaminants attach or *sorb* to underground particles. Fuel hydrocarbons tend to repel water, as most oily substances do. When they have an opportunity to escape from the ground water by attaching to organic matter and clay minerals that also repel water, they do so. This is beneficial because it may keep the contaminants from flowing to an area where they might be a health threat. Sorption, like dilution and dispersion, appears to reduce the concentration and mass of contamination in the ground water, but does not destroy the contaminants.

Why consider natural attenuation?

In certain situations, natural attenuation is an effective, inexpensive cleanup option and the most appropriate way to remediate some contamination problems. Natural attenuation is sometimes mislabeled as a “no action” approach. However, natural attenuation is really a proactive approach that focuses on the confirmation and monitoring of natural remediation processes rather than relying totally on “engineered” technologies. Mobile and toxic fuel hydrocarbons, for example, are good candidates for natural attenuation. Not only are they difficult to trap because of their mobility, but they are also among the contaminants most easily destroyed by biodegradation. Natural attenuation is non-invasive, and, un-

like many elaborate mechanical site cleanup techniques, while natural attenuation is working below ground, the land surface above ground may continue to be used. Natural attenuation can be less costly than other active engineered treatment options, especially those available for ground water, and requires no energy source or special equipment.

Will natural attenuation work at every site?

To estimate how well natural attenuation will work and how long it will take requires a detailed study of the contaminated site. The community and those conducting the cleanup need to know whether natural attenuation, or any proposed remedy, will reduce the contaminant concentrations in the soil and water to legally acceptable levels within a reasonable time.

Natural attenuation may be an acceptable option for sites that have been through some active remediation which has reduced the concentrations of contaminants. However, natural attenuation is not an appropriate option at all sites. The rates of natural processes are typically slow. Long-term monitoring is necessary to demonstrate that contaminant concentrations are continually decreasing at a rate sufficient to ensure that they will not become a health threat. If not, more aggressive remedial alternatives should be considered.

What Is An Innovative Treatment Technology?

Treatment technologies are processes applied to the treatment of hazardous waste or contaminated materials to permanently alter their condition through chemical, biological, or physical means.

Innovative treatment technologies are those that have been tested, selected or used for treatment of hazardous waste or contaminated materials but lack well-documented cost and performance data under a variety of operating conditions.

Because the ability of natural attenuation to be an effective cleanup method depends on a variety of conditions, the site needs to be well-characterized to determine if natural attenuation is occurring or will occur. Sites where the soil contains high levels of natural organic matter, such as swampy areas or former marshlands often provide successful conditions for natural attenuation. Certain geological formations such as fractured bedrock aquifers or limestone areas are less likely candidates for natural attenuation because these environments often have a wide variety of soil types that cause unpredictable ground water flow and make predicting the movement of contamination difficult.

Where is natural attenuation being used?

Natural attenuation is being used to clean up petroleum contamination from leaking underground storage tanks across the country.

Within the Superfund program, natural attenuation has been selected as one of the cleanup methods at 73 ground-water-contaminated sites—but is the sole treatment option at only six of these sites. Some of these sites include municipal and industrial land fills, refineries, and recyclers.

At the Allied Signal Brake Systems Superfund site in St. Joseph, Michigan, microorganisms are effectively removing TCE and other chlorinated solvents from ground water. Scientists studied the underground movement of TCE-contaminated ground water from its origin at the Superfund site to where it entered Lake Michigan about half a mile away. At the site itself, they measured TCE concentrations greater than 200,000 micrograms per liter ($\mu\text{g/L}$), but by the time the plume reached the shore of Lake Michigan, the TCE was one thousand times less—only $200\mu\text{g/L}$. About 300 feet offshore in Lake Michigan, the concentrations were below EPA's allowable levels. EPA estimated the plume took about 20 years to move from the source of contamination to Lake Michigan—plenty of time for the microorganisms naturally present in the ground water to destroy the TCE without any outside intervention. In fact, microorganisms were destroying about 600 pounds of TCE a year at no cost to taxpayers. EPA determined that nature adequately remediated the TCE plume in St. Joseph.

For More Information

The publications listed below can be ordered free of charge by faxing your request to NCEPI at 513-489-8695. If NCEPI is out of stock of a document, you may be directed to other sources. Some of the documents listed also can be downloaded free of charge from EPA's Cleanup Information (CLU-IN) World Wide Web site (<http://clu-in.com>) or electronic bulletin board (301-589-8366). The CLU-IN help line number is 301-589-8368.

You may write to NCEPI at:

National Center for Environmental Publications and Information (NCEPI)
P.O. Box 42419
Cincinnati, OH 45242

- *A Citizen's Guide to Bioremediation*, April 1996, EPA 542-F-96-007.
- *Symposium on Intrinsic Bioremediation of Ground Water*, August 1994, EPA 540-R-94-515.
- *Bioremediation Research: Producing Low-Cost Tools to Reclaim Environments*, September 1995, EPA 540-R-95-523a.
- "Natural Bioremediation of TCE," *Ground Water Currents* (newsletter), September 1993, EPA 542-N-93-008.
- "Innovative Measures Distinguish Natural Bioattenuation from Dilution/Sorption," *Ground Water Currents* (newsletter), December 1992, EPA 542-N-92-006.
- *How to Evaluate Alternative Cleanup Technologies for UST Sites*, (Chapter on Natural Attenuation), May 1995, EPA 510-B-95-007.
- *Bioremediation Resource Guide*, September 1993, EPA 542-B-93-004. A bibliography of publications and other sources of information about bioremediation technologies.
- *Engineering Bulletin: In Situ Biodegradation Treatment*, April 1994, EPA 540-S-94-502.
- *Selected Alternative and Innovative Treatment Technologies for Corrective Action and Site Remediation: A Bibliography of EPA Information Sources*, January 1995, EPA 542-B-95-001. A bibliography of EPA publications about innovative treatment technologies.
- *WASTECH® Monograph on Bioremediation*, ISBN #1-883767-01-6. Available for \$49.95 from the American Academy of Environmental Engineers, 130 Holiday Court, Annapolis, MD 21401. Telephone 410-266-3311.

NOTICE: This fact sheet is intended solely as general guidance and information. It is not intended, nor can it be relied upon, to create any rights enforceable by any party in litigation with the United States. The Agency also reserves the right to change this guidance at any time without public notice.

COMMONLY ASKED QUESTIONS REGARDING THE USE OF NATURAL ATTENUATION FOR CHLORINATED SOLVENT SPILLS AT FEDERAL FACILITIES

*This brochure was developed through a partnership
among the U.S. EPA, Air Force, Army, Navy, and Coast Guard.*

Do federal, state, and local regulations allow natural attenuation as an option for remediation of chlorinated solvents?

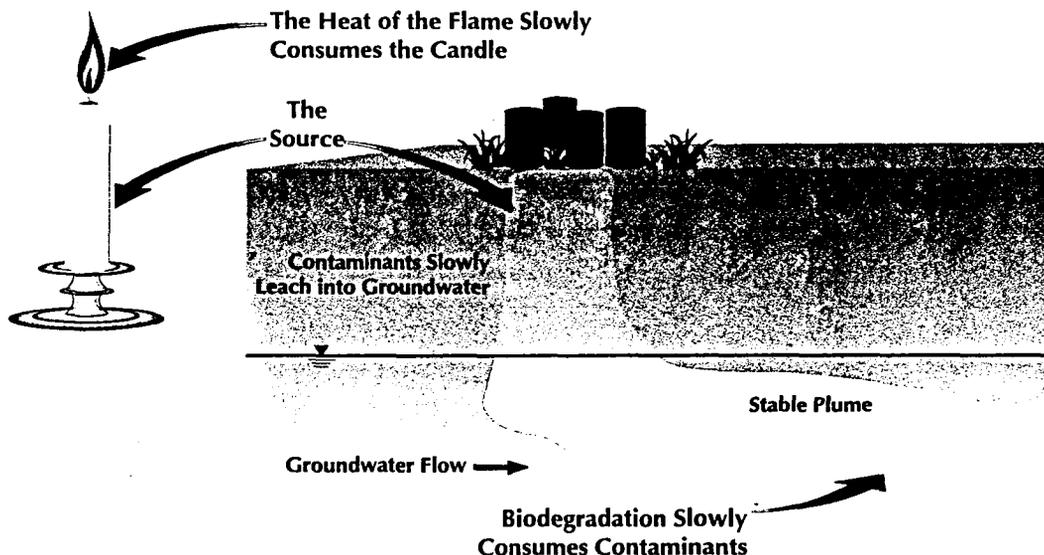
Natural attenuation is recognized by the EPA as a viable method of remediation for soil and groundwater that can be evaluated and compared to other methods of achieving site remediation as a part of the remedy selection process. The selection of natural attenuation as a component of any site remedy should be based on its ability to achieve remediation goals in a reasonable timeframe and protect human health and the environment. EPA recognition of natural attenuation extends to sites regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Resource Conservation and Recovery Act (RCRA); and underground storage tank (UST) regulations. Natural attenuation is not a default option or a "presumptive remedy." As with any remedy, it must comply with state groundwater use classifications and standards.

"Under certain site conditions, and if properly documented, natural attenuation can be a viable option for remediating sites as a stand-alone option or in conjunction with other engineered remediation." Jim Woolford, Director, EPA's Federal Facilities Restoration and Reuse Office

What is natural attenuation?

When chlorinated solvents such as trichloroethene (TCE) or perchloroethene (PCE) are spilled or leak into the soil or groundwater, several natural processes can occur to destroy or alter these chemicals. These processes, known collectively as natural attenuation, include adsorption to soil particles, biodegradation of contaminants, and dilution and dispersion in groundwater. Many contaminants are prevented from migrating off the site because they are adsorbed to soil particles. Although biodegradation does not occur at all chlorinated solvent sites, it can be an important process in destroying these contaminants. Dilution and dispersion do not destroy contaminants, but can significantly reduce their potential risk at many sites.

"Intrinsic" and "passive" remediation are other terms which have been used to describe the combined effect of these processes. Dr. John Wilson of the EPA compares natural attenuation in groundwater to the flame of a candle. The source of the flame is the wax of the candle just as the source of the groundwater contamination is the concentrated solvents trapped in the soil. The flame appears steady because the wax is destroyed in the flame as fast as it is removed from the candle. In the same way, many groundwater plumes will reach "steady state" at some distance from the source, when biological reactions are able to destroy contaminants as they enter the groundwater from the soil. Eventually, the candle is consumed by the flame just as the contaminants in the soil and groundwater can be attenuated through biodegradation and other natural processes.



How is natural attenuation different from the "do nothing" approach?

Natural attenuation is sometimes mislabeled as the "do nothing" or "walk away" approach to site cleanup. The truth is that natural attenuation is a proactive approach that focuses on the verification and monitoring of natural remediation processes rather than relying totally on "engineered" processes.

Before natural attenuation can be proposed for any site, significant soil and groundwater data must be collected and evaluated to document that natural attenuation is occurring and to estimate the effectiveness of natural processes in reducing contaminant concentrations over time. If natural attenuation is selected as the preferred site remedy, the party responsible for site cleanup must commit to long-term monitoring to verify that the contaminants pose no risk to human health or the environment and that natural processes are reducing contaminant levels and risk as predicted. Land use and groundwater use are generally controlled on these sites to prevent human exposure to contaminants.

How does natural attenuation of chlorinated solvents differ from natural attenuation of petroleum products such as fuels?

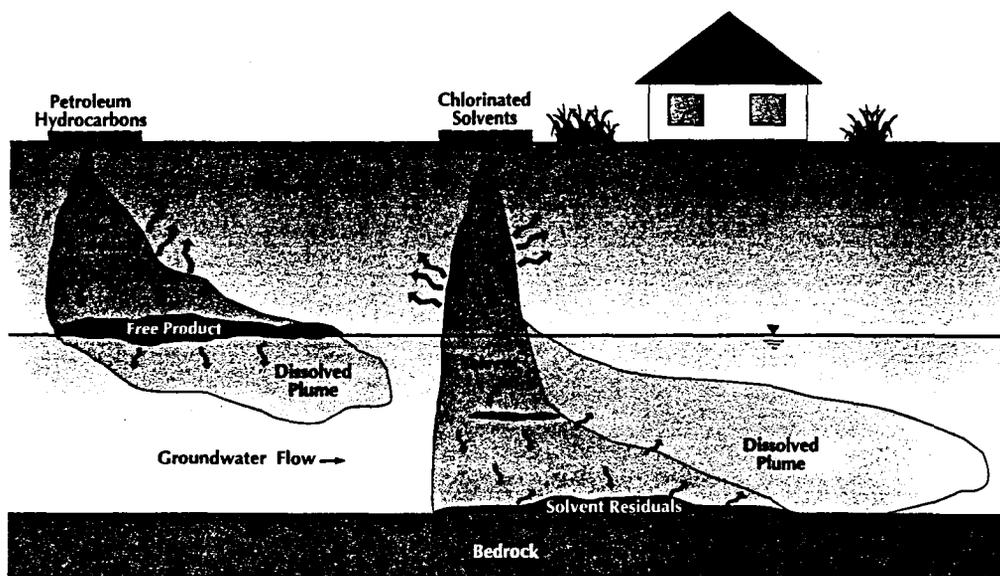
Because chlorinated solvents are synthetic chemicals, they tend to be more resistant to natural biodegradation processes. However, significant evidence now exists that biochemical reactions can also break down chlorinated compounds in the soil and groundwater. These processes are harder to predict and are effective at a smaller percentage of sites compared to petroleum-contaminated sites. Despite these limitations, significant progress has been made in understanding the fate and transport of chlorinated solvents and the role of natural attenuation.

Chlorinated solvents also migrate differently than petroleum hydrocarbons. Because chlorinated compounds have a greater density than water, they tend to sink rapidly into the aquifer. When large quantities of solvent are released, they will sink until they encounter an impermeable layer where they form small pools which serve as a long-term source of groundwater contamination. These untreated sources dissolve slowly over time, contaminating large volumes of water.

How can you tell if natural attenuation may work at a site?

Experts in the science of natural attenuation have identified several good indicators or lines of evidence that can be used to prove that natural processes are reducing contaminant concentrations. The following lines of evidence are useful in documenting the natural attenuation of chlorinated solvents:

- Historical trends indicating a decrease in contaminant concentrations, as well as a stable or retreating plume. A stable or retreating plume generally indicates that contaminants are being destroyed as fast as they are dissolved into the groundwater.
- Favorable geochemical conditions. Biological reactions will change the chemical composition of the groundwater. One condition which is particularly favorable for chlorinated solvent destruction occurs in groundwater that has been completely depleted of oxygen and nitrate. Depleted levels of sulfate and elevated levels of dissolved methane are also favorable conditions.
- Breakdown or "daughter" products. Chlorinated solvents are often destroyed by biochemical reactions which remove one chlorine atom at a time from the "parent" or original solvent. When these breakdown products are detected in the groundwater, it provides evidence that contaminant destruction is underway. It is important for biodegradation to be complete, because some breakdown products may be more toxic than parent compounds.
- Laboratory "microcosm" studies. These studies can be used to simulate aquifer conditions and to demonstrate that native bacteria can create the necessary biochemical reactions to destroy contaminants of concern. This technique is sometimes required for chlorinated solvent sites because the biochemical reactions are more complex and more difficult to predict than reactions on petroleum-contaminated sites.



The Air Force Center for Environmental Excellence is developing a comprehensive natural attenuation protocol (Draft Technical Protocol for Natural Attenuation of Chlorinated Solvents in Groundwater) for chlorinated solvent sites. This document describes how this evidence can be collected during site investigation activities and how it can be interpreted to estimate the contribution of natural attenuation in the remediation process.

Will natural attenuation be effective on all chlorinated sites?

Definitely not. Some chlorinated solvent contamination has impacted large quantities of groundwater which will be required for some beneficial use. There are risks associated with the continued migration of these plumes into public drinking water supplies and some form of engineered remediation is needed at these sites. On sites where no current risk to public health or the environment exists, natural attenuation can play an important role in reducing future risk if institutional controls (e.g., deed restrictions and zoning ordinances) can be implemented. Scientists are beginning to observe certain site profiles where natural attenuation has a higher probability of being integrated into the remediation process. These include:

- Sites where chlorinated solvents are spilled with other petroleum compounds (the best biochemical reactions for degradation are produced).
- Sites where the soil contains high levels of natural organic matter, such as swampy areas or former marshlands.
- Sites where shallow (unused) groundwater is separated from deeper groundwater by a thick, low-permeability clay layer.
- Sites where there is little or no source remaining due to active remediation.

Why are chlorinated solvent spills so common at federal facilities?

Chlorinated solvents were developed as superior cleaning solutions for removing grease and carbon buildup from metal parts. For over 40 years they were widely used by U.S. industry and the federal government for a variety of equipment cleaning tasks.

Prior to environmental laws restricting their use, these compounds were often stored in drums or underground storage tanks and disposed of in the sanitary sewer, in evaporation ponds, or mixed with fuels and burned. These solvents have created significant groundwater contamination at many federal facilities. Since 1976, when RCRA was established, the use and disposal of these solvents have been carefully regulated and many chlorinated solvents have been replaced with less harmful substitutes.

Can natural attenuation achieve site cleanup goals?

Natural attenuation may be effective in achieving cleanup goals at some sites, particularly when these goals are based on site-specific risk reduction. For example, if contaminant migration is limited to shallow groundwater, and groundwater use can be controlled, natural attenuation may eventually achieve cleanup goals on some sites. However, natural attenuation is more likely to play a role in cleaning up a portion of a chlorinated site. Natural attenuation is more likely to clean up areas that have lower levels of contamination. Such areas are normally found outside of highly contaminated source areas, or at sites with relatively small source areas.

What are some of the potential advantages and limitations of natural attenuation?

Potential Advantages

- 👍 Less generation or transfer of wastes.
- 👍 Less intrusive and disruptive than engineered methods.
- 👍 Can be combined with active remedial measures or used to remediate a portion of the site.
- 👍 Remediation costs may be lower than with active remediation.

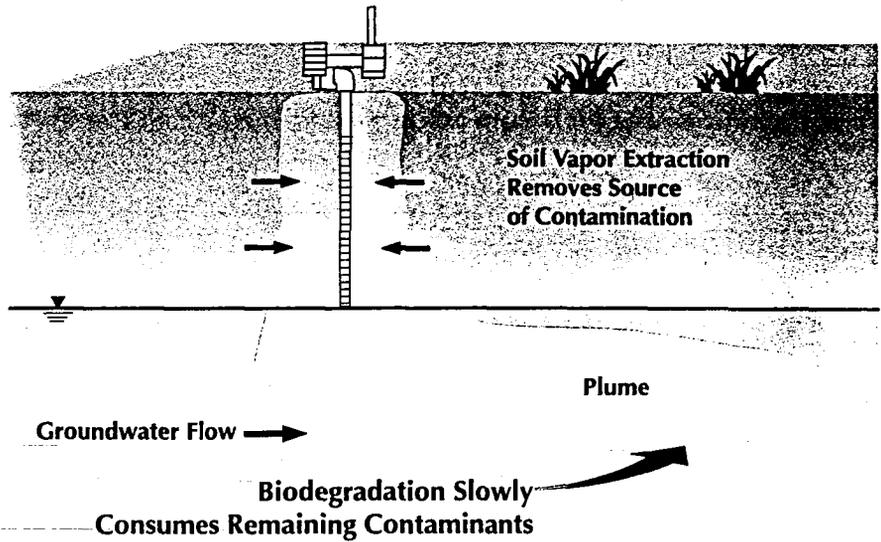
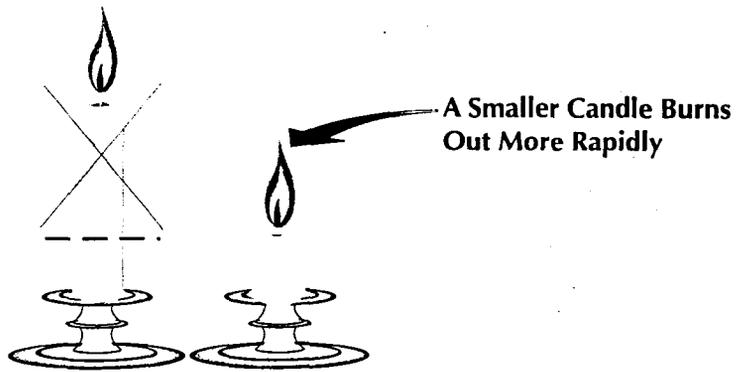
Potential Limitations

- 👎 May require more time to achieve cleanup goals and requires a commitment to long-term monitoring. On some sites, long-term monitoring costs can be excessive.
- 👎 If natural attenuation rates are too slow, the plume could continue to migrate.
- 👎 Incomplete biodegradation can create new, more toxic contaminants.
- 👎 Land and groundwater use controls are often required.

Can natural attenuation processes be enhanced to speed up the cleanup process?

Natural attenuation may be successfully combined with other remediation techniques to achieve cleanup goals within a reasonable time frame. Engineered approaches that may be used in conjunction with natural attenuation include hydraulic containment, soil vapor extraction, source removal, and pump-and-treat methods. In addition, non-toxic organic compounds may be added to enhance the breakdown of contaminants.

Again, the candle provides a useful illustration of how active and natural remediation can be combined. If the top of the candle (the source) is cut off and removed, the flame (plume) will exist for only a fraction of the original time. Soil vapor extraction, free product recovery, soil excavation, and groundwater extraction in the source area are all methods of reducing or containing the source of solvent contamination. The rate at which the candle burns can also be increased by improving the conditions for combustion. As mentioned previously, many chlorinated solvents actually degrade faster in the absence of oxygen under anaerobic conditions. Researchers are now developing methods of adding highly biodegradable organic compounds to increase the natural bacteria population in the groundwater which will consume available oxygen and create these favorable conditions. Regardless of whether an engineered remediation or natural attenuation is used, controls on groundwater use will be required on most chlorinated solvent sites.



This brochure was developed through a partnership among the U.S. EPA, Air Force, Army, Navy, and Coast Guard. If you would like additional information about natural attenuation and its application at federal facilities, you may fax your request to the National Center for Environmental Publications and Information at (513) 489-8695 or contact the following agency home pages on the Internet:

- EPA - <http://www.epa.gov>
- Air Force - <http://www.afcee.brooks.af.mil>
- Army - <http://aec-www.apgea.army.mil:8080>
- Navy - <http://www.nfesc.navy.mil>
- Coast Guard - <http://www.dot.gov/dotinfo/uscg>

What if natural attenuation does not work at a site?

As with any remedy, if monitoring results indicate inadequate progress, it will be necessary to reevaluate the remedial action plan. If this occurs, the remediation project manager would consider implementing an engineered approach for all or part of the plume.





Superfund Today

FOCUS ON FIVE-YEAR REVIEWS AND INVOLVING THE COMMUNITY

Checking Up On Superfund Sites: The Five-Year Review

The U.S. Environmental Protection Agency (EPA) conducts regular checkups, called five-year reviews, on certain Superfund sites. EPA looks at sites where cleanup left wastes that limit site use. For example, EPA will look at a landfill to make sure the protective cover is not damaged and is working properly. EPA will also review sites with cleanup activity still in progress after five years.

In both cases, EPA checks the site to make sure the cleanup continues to protect people and the environment. The EPA review team conducts the review, asks and answers questions, and writes a report on the results of the review. At some sites, other Federal agencies, a State agency, or an Indian Tribe may do the review, but EPA stays involved in the process and approves the report.

The Five-Year Review is:

- a regular EPA checkup on a Superfund site that has been cleaned up—but waste was left behind—to make sure the site is still safe;
- a way to make sure the cleanup continues to protect people and the environment; and
- a chance for you to tell EPA about site conditions and any concerns you have.

During the review, EPA studies information on the site, including the cleanup and the laws that apply, and inspects the site to make sure it continues to be safe. EPA also needs information from people who are familiar with the site. As someone living close to the site, you may know about things that can help the review team decide if the site is still safe. Here are some examples of things to tell EPA about:

- Broken fences, unusual odors, dead plants, materials leaving the site, or other problems;
- Buildings or land around the site being used in new ways;
- Any unusual activities at the site, such as dumping, vandalism, or trespassing; and
- Ways the cleanup at the site has helped the area.

For More Information ...

... about a Superfund site in your neighborhood, please call the toll-free **Superfund/RCRA Hotline at 1-800-424-9346** or the Community Involvement Coordinator in the EPA regional office for your state. Your local EPA office can tell you where you can go to review files on every Superfund site in your area. Often, EPA holds community meetings to let people who live near a site know about site activities. You also may find useful information on the Superfund home page (www.epa.gov/superfund). More information about the five-year review process can be found in the document, "Comprehensive Five Year Review Guidance," EPA 540-R-01-007, OSWER 9355.7-03B-P, June 2001.

The Five-Year Review: *Continuing to Protect You and the Environment*

Step 1: Develop Plan

To plan a five-year review, the site manager forms a review team, which may include an EPA Community Involvement Coordinator, scientists, engineers, and others. The team members decide what they will do at the site and when they will do it. The Community Involvement Coordinator is the member of the team who works with your community during the review.

Your role: EPA will announce the start of the review, probably through a notice in a newspaper or a flyer. Review the notice to see when the review will start.

Step 2: Collect Information

The review team members collect information about site cleanup activities. They talk with people who have been working at the site over the past five years, as well as local officials, to see if changes in local policy or zoning might affect the original cleanup plan. The team usually visits the site to see if the cleanup equipment is working properly, to take new samples, and to review records of activities at the site to make sure the cleanup is still effective. Finally, the review team may talk to people who live or work near the site to learn about site activities during the past five years. They may give you a call or meet with you in person.

Your role: If you know anything about unusual site activities at or around the site, such as trespassing or odors, or have any other concerns, call the Community Involvement Coordinator.

Step 3: Ensure Safety, Announce Findings, and Publish Report

The review team uses the information collected to decide if your community and the environment are still safe from the contaminated material left at the site. If the cleanup activities are keeping people and the environment safe, the team calls them "protective." When cleanup goals are not being met, or when problems come up, the review team will call the cleanup activities "not protective." When the team finishes the five-year review, it writes a report about the information that includes background on the site and cleanup activities, describes the review, and explains the results. The review team also writes a summary and announces that the review is finished. They tell your community (via public notices, flyers, etc.) where to find copies of the report and summary—at a central place called the site repository—for anyone to see.

Your role: Read about the site and learn about the cleanup methods being reviewed. Review the report. Ask the Community Involvement Coordinator any questions you have about the site.

What Happens After The Review?

As long as contaminated materials at the site stop people from freely using the land, EPA will do a review every five years. EPA also regularly monitors the site based on an operations and maintenance plan they develop. For example, the site manager may visit the site and read reports about activities at the site. Also, site workers may visit the site to cut the grass, take samples, or make sure equipment is working. If you see any problems or things that concern you—don't wait for the five-year review—let EPA know right away.



Perchlorate Update

MARCH 2002

The United States Environmental Protection Agency (EPA) has released its revised draft toxicity assessment, "Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization." When finalized, this assessment will be an important update of EPA's health assessment that reflects the state of the science regarding the health effects of the chemical perchlorate. The preliminary revised human health risk estimates found in the document are still undergoing review and deliberations both by the external scientific community and within EPA, and do not represent EPA policy at this stage.

How To Review and Comment on EPA's Draft Perchlorate Toxicity Assessment

The draft perchlorate toxicity assessment is available at EPA's National Center for Environmental Assessment (NCEA) Web site www.epa.gov/ncea under "what's new." Written public comments on the scientific literature and on EPA's characterization of the science in the draft perchlorate assessment will be accepted by EPA's contractor, Eastern Research Group, for consideration during the Agency's document revision process. These comments will be made available to the peer reviewers. Public comments must be received by April 5, 2002. Send your comments to: Eastern Research Group ERG, Attn: Meetings, 100 Hartwell Avenue, Lexington, MA 02421. If your comments are under 50 pages in length, you can send them via email attachment (in Word, WordPerfect or PDF) to meetings@erg.com.

What is Perchlorate?

Perchlorate is both a naturally occurring and man-made chemical. Most of the perchlorate manufactured in the United States is used as the primary ingredient of solid rocket propellant. Wastes from the manufacture and improper disposal of perchlorate-containing chemicals are increasingly being discovered in soil and water.

How Can Perchlorate Affect Human Health?

Perchlorate interferes with iodide uptake into the thyroid gland. Because iodide is an essential component of thyroid hormones, perchlorate disrupts how the thyroid functions. In adults, the thyroid helps to regulate metabolism. In children, the thyroid plays a major role in proper development in addition to metabolism. Impairment of thyroid function in expectant mothers may impact the fetus and newborn and result in effects including changes in behavior, delayed development and decreased learning capability. Changes in thyroid hormone levels may also result in thyroid gland tumors. EPA's draft analysis of perchlorate toxicity is that perchlorate's disruption of iodide uptake is the key event leading to changes in development or tumor formation.

What are the Preliminary Conclusions of the Draft Toxicity Assessment?

The EPA draft assessment concludes that the potential human health risks of perchlorate exposures include effects on the developing nervous system and thyroid tumors. The draft assessment includes a draft reference dose (RfD) that is intended to be protective for both types of effects. It is based on early events that could potentially result in these effects, and factors to account for sensitive populations, the nature of the effects, and data gaps were used. The draft RfD is 0.00003 milligrams per kilogram per day (mg/kg/day). The RfD is defined as an estimate, with uncertainty spanning perhaps an order of magnitude, of a daily exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of adverse effects over a lifetime. As with any EPA draft assessment document containing a quantitative risk value, that risk value is also draft and should not at that stage be construed to represent EPA policy. Thus, the draft RfD for perchlorate is still undergoing science review and deliberations both by the external scientific community and within the Agency.

The assessment provides a hypothetical conversion of the draft RfD to a drinking water equivalent level, assuming factors of 70 kilograms (kg) body weight and 2 liters (L) of water consumption per day. The converted draft estimate would be 1 microgram per liter (ug/L) or 1 part per billion (ppb). If the Agency were to make a determination to regulate perchlorate, the RfD, along with other considerations would factor into the final value.

Does Perchlorate Cause Cancer?

Perchlorate is associated with disruption of thyroid function which can potentially lead to thyroid tumor formation. This draft toxicity assessment accounts for both developmental and tumor formation effects.

Does My Water Contain Perchlorate?

Confirmed perchlorate releases have occurred in at least 20 states throughout the United States (see Figure 2). In EPA Region 9, perchlorate releases have occurred in California, Arizona, and Nevada. Perchlorate has also been released into the Colorado River, which is a drinking water source for some areas of the region. Additional information and maps detailing those sites are available in Chapter 1 of the draft of the "Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization." EPA, other federal agencies, states, water suppliers and industry are already actively addressing perchlorate contamination through monitoring for perchlorate in drinking water and surface water. The full extent of perchlorate contamination is not known at this time.

What is Being Done about Perchlorate?

A peer review of the draft perchlorate

toxicity assessment will be held March 5 and 6, 2002 in Sacramento, CA. The purpose of the peer review is to provide an independent review of the scientific information and interpretation used in the document. Once the assessment is finalized, the reference dose will be used in EPA's ongoing efforts to address perchlorate problems. EPA's draft reference dose represents a preliminary estimate of a protective health level and is not a drinking water standard. In the future, EPA may issue a Health Advisory that will provide information on protective levels for drinking water. This is one step in the process of developing a broader response to perchlorate including, for example, technical guidance, possible regulations and additional health information. A federal drinking water regulation for perchlorate, if ultimately developed, could take several years.

In 1998, perchlorate was placed on EPA's Contaminant Candidate List for consideration for possible regulation. In 1999, EPA required drinking water monitoring for perchlorate under the Unregulated Contaminant Monitoring Rule (UCMR). Under the UCMR, all large public water systems and a representative sample of small public water systems are required to monitor for perchlorate over the next two years to determine whether the public is exposed to perchlorate in drinking water nationwide.

How is Perchlorate Removed from Water?

Several types of treatment systems designed to reduce perchlorate concentrations are operating around the United States, reducing perchlorate to below the 4 ppb reporting level. Biological treatment and ion (anion) exchange systems are among the technologies that are being used, with additional treatment technologies under development.

Many other perchlorate studies have been completed during the last several years. A May 2001 summary of 65 perchlorate treatment studies is available online at www.gwrtac.org/ (click on "Technical Documents" then look for "Technology Status Reports"). The summary report was prepared by the Ground-Water Remediation Technologies Analysis Center. Most of the projects described in the report are bench-scale and pilot-scale demonstrations of water treatment technologies, although several entries describe full-scale systems and soil treatment methods. Most of the projects employ biological treatment methods or ion (anion) exchange technology, although reverse osmosis, nanofiltration, granular activated carbon, and chemical reduction are also discussed. Results of federally-funded perchlorate treatment research, managed by the American Water Works Association Research Foundation (AWWARF), are also becoming available (see www.awwarf.com/research/spperch.asp).

Is Perchlorate-contaminated Water Safe to Drink?

EPA's draft toxicity assessment is preliminary and thus, it is difficult to make definitive recommendations at this stage. Other factors that influence the answer to this question include how much water is consumed, the degree of perchlorate contamination and the health status of the consumer.

Sensitive populations, like pregnant women, children and people who have health problems or compromised thyroid conditions, should follow the advice of their health care provider regarding the amount and type of liquids, including water that should be consumed.

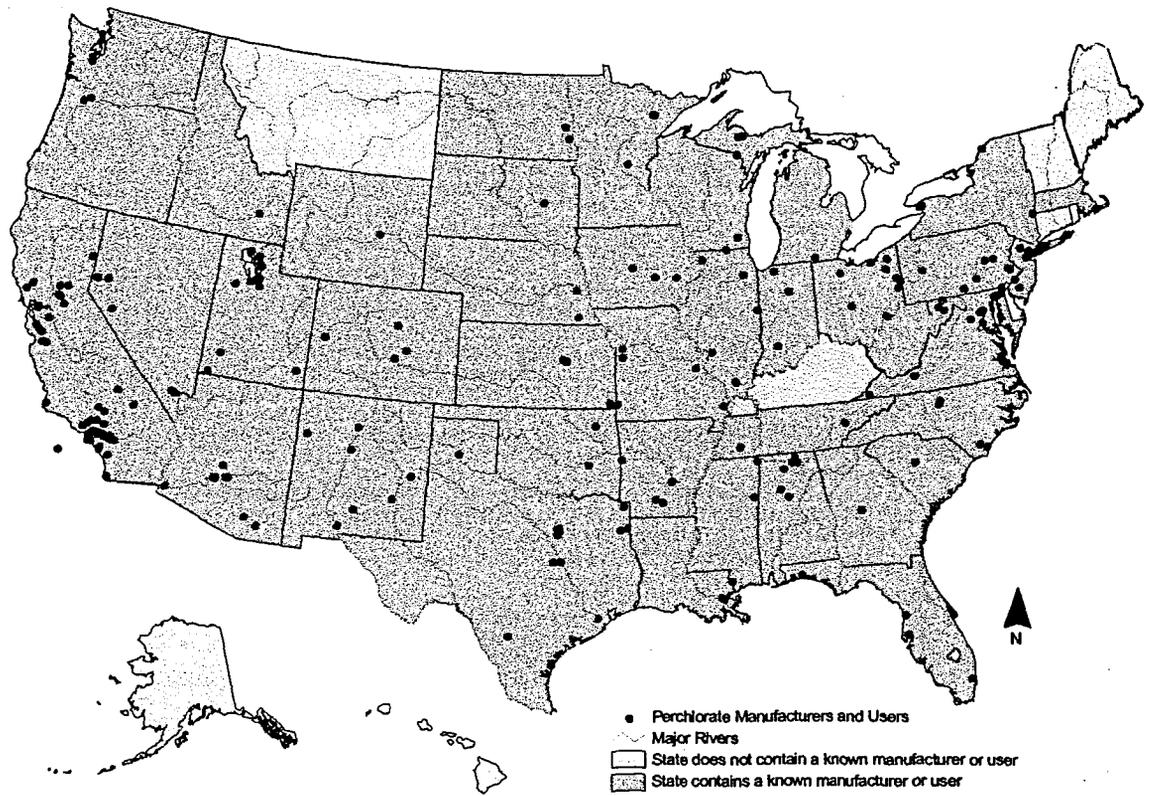


Figure 1: U.S. Perchlorate Manufacturers and Users, as of October 2001

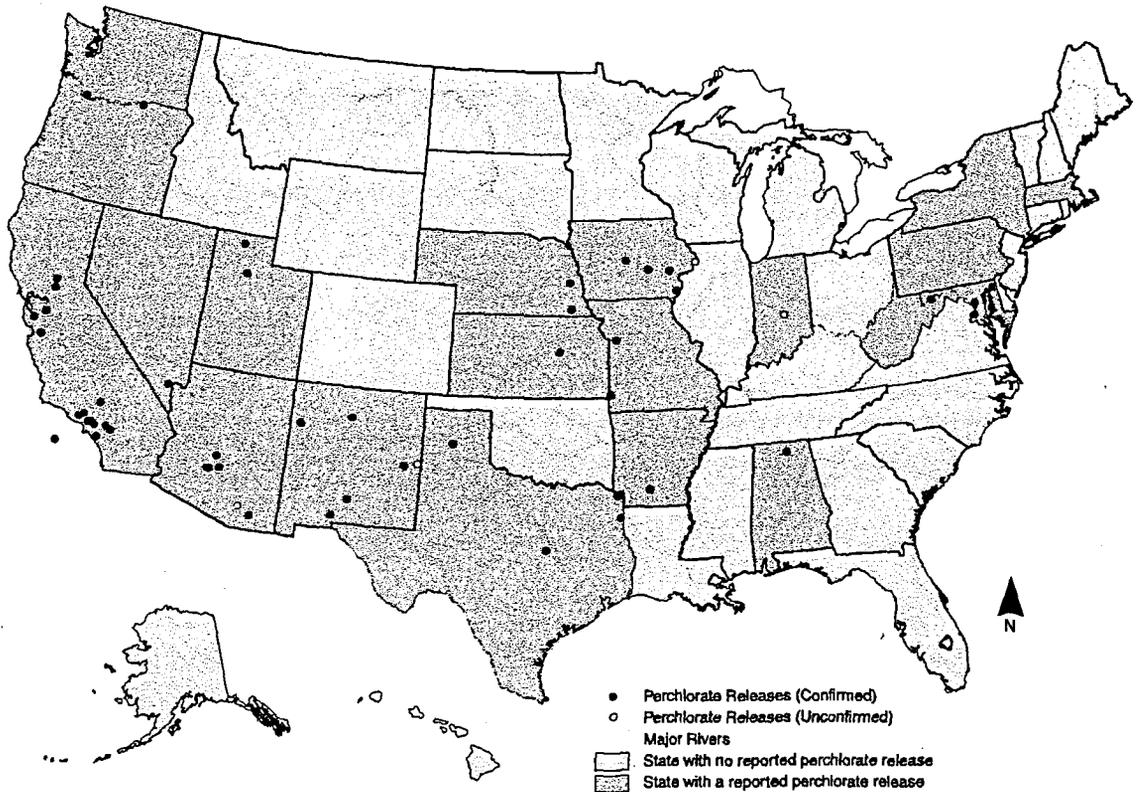


Figure 2: Reported Releases of Perchlorate into the Environment, as of November 2001

For more information

U.S. Environmental Protection Agency Contacts

Direct health and risk assessment questions to:
Annie Jarabek
National Center for Environmental Assessment
Office of Research and Development
(919) 541-4847

Direct questions about occurrence to:
Kevin Mayer
Region 9 Remedial Project Manager
Superfund Division
(415) 972-3176

Direct questions about treatment technology to:
Wayne Praskins
Region 9 Superfund Division
San Gabriel Valley treatment studies
(415) 972-3181

Direct questions about regulatory issues to:
David Huber
Office of Ground Water and Drinking Water
(202) 564-4878

Direct questions about the Integrated Risk Information
System (IRIS) to:
Amy Mills
National Center for Environmental Assessment
Office of Research and Development
(202) 564-3204

During the peer review and in regard to Region 9
Direct press inquiries to:
Lisa Fasano
Region 9 Office of Public Affairs
(415) 947-4307

After peer review and outside of Region 9
Direct press inquiries to:
Dave Deegan
EPA Office of Media Relations
(202) 564-7839

or

Richard David
Immediate Office of the Assistant Administrator
Office of Research and Development
(202) 564-3376

Direct questions about community involvement or the
mailing list to:
Wenona Wilson
Region 9 Community Involvement Coordinator
Superfund Division
(415) 972-3239
(800) 231-3075



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Environmental Data Quality

The Navy, through its prime contractors, employs several laboratories to perform a wide variety of environmental analyses. These laboratories are required to successfully complete the state of California certification process and the Navy's laboratory evaluation program before they are used for Navy projects. These quality control programs are designed to determine if laboratories have (and use) adequate quality control and quality assurance procedures that enable them to produce reliable environmental data. As a component of these certification programs the lab must be able to produce acceptable analytical results for samples provided by the certifying agency. These samples are known as performance evaluation samples, and ongoing laboratory performance is monitored throughout the year through analyses of additional performance evaluation samples.

The quality of environmental data is judged according to various criteria; these include Precision, Accuracy, Representativeness, Completeness and Comparability. These criteria are collectively referred to as the PARCC parameters. Precision refers to the variability of the data (i.e. how closely results from the same test of the same sample agree). Precision of reported results is a function of inherent field-related variability plus laboratory analytical variability. Accuracy is the degree of agreement between the test result and the true value of the property being measured; it is a measure of bias in the system. Representativeness is a parameter that is most concerned with the proper design of the sampling plan and the absence of cross-contamination. Good representativeness is achieved through careful selection of sampling locations, testing parameters and methods, and proper sample collection and handling procedures. Completeness refers to the amount of usable data obtained from a given sampling effort, and comparability is related to the similarity of data obtained from one sampling effort to another. Comparability is achieved through the use of consistent methods of acquisition, handling, and analysis of samples.

Analytical methods, many types of quality control samples, and quality assurance procedures have been developed by the EPA and others to insure that environmental data satisfy these PARCC parameters and will meet project needs. The Navy documents these criteria in its project specific Sampling and Analysis Plans.

The Navy uses the following types of quality control (QC) checks to insure that the environmental data collected of the highest quality:

1. Duplicate samples collected in the field or prepared in the laboratory to demonstrate precision
2. Equipment Rinse Blanks collected in the field to verify adequacy of decontamination procedures and insure the accuracy of results
3. Trip Blanks transported with environmental samples to verify that no contamination occurs during sample transport

4. Source Blanks collected in the field to verify that no contamination occurs during sample collection
5. Matrix Spikes prepared in the laboratory to determine the precision and accuracy, of analytical results
6. Surrogate and Internal Standards prepared in the laboratory, which serve as the basis for quantification and provide a measure of accuracy
7. Method Blanks prepared in the laboratory to detect possible laboratory contamination and assess accuracy

The number and type of QC samples required depends upon the nature and purpose of the samples being collected. For example, a trip blank is a sealed water sample that is placed in the cooler used to transport samples from the field to the lab. Trip blanks are only used when water samples are being collected for volatile organic compound (VOC) analysis. This is because water samples can absorb and retain air borne contaminants if not properly handled and sealed. In general, the type of sample and the tests to be performed determines which types of quality control samples are needed. These requirements are documented for each project in the associated Sampling and Analysis Plan.

The quality of laboratory measurements is verified on several levels before test results are released to the end users. Test results that are not fully compliant with the prescribed quality control requirements are flagged with coded laboratory qualifiers to alert the end users. These lab qualifiers allow the end-user to determine data usability. In addition, the Navy uses independent (third party) data validation to verify compliance with a wide variety of method and QC requirements. Data sets whose QC requirements are not fully compliant are also flagged (validation qualifiers). These qualifiers are important to the data users in assessing data usability.

As described above, good quality data requires many things from sample collection to data reporting. Analysis of environmental samples are highly prescriptive, there is no room for arbitrary experimentation or sloppy techniques. Deviations from the prescribed methods are not allowed unless acceptable alternatives are approved in advance.

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

VOC PLUME BASED ON SEPT. 2002 DATA

ALTERNATE SITES FOR WELL ET-2

WELL ET-2 PIPELINE ROUTES

POTENTIAL PRIVACY ACT INFORMATION

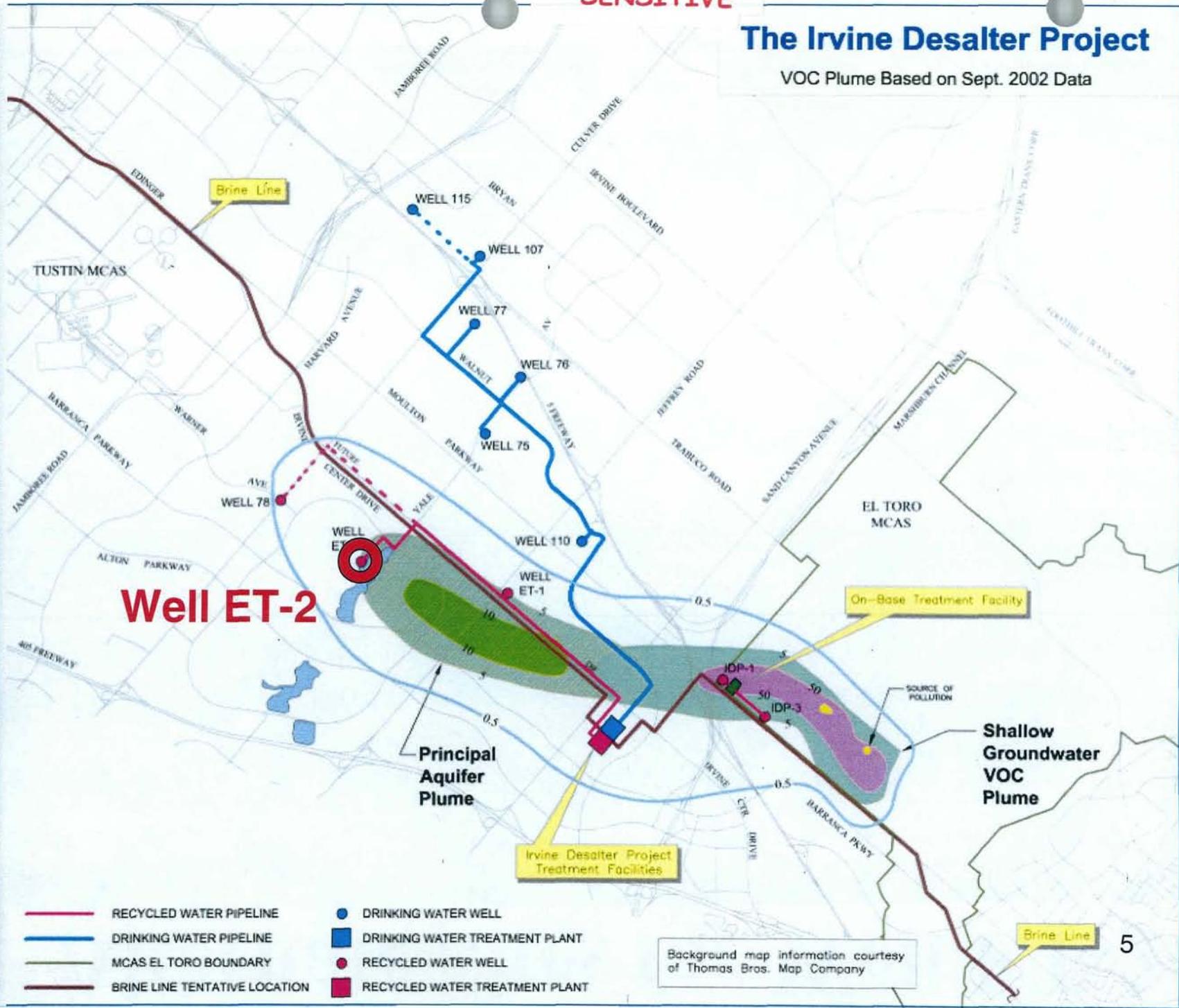
FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

The Irvine Desalter Project

VOC Plume Based on Sept. 2002 Data

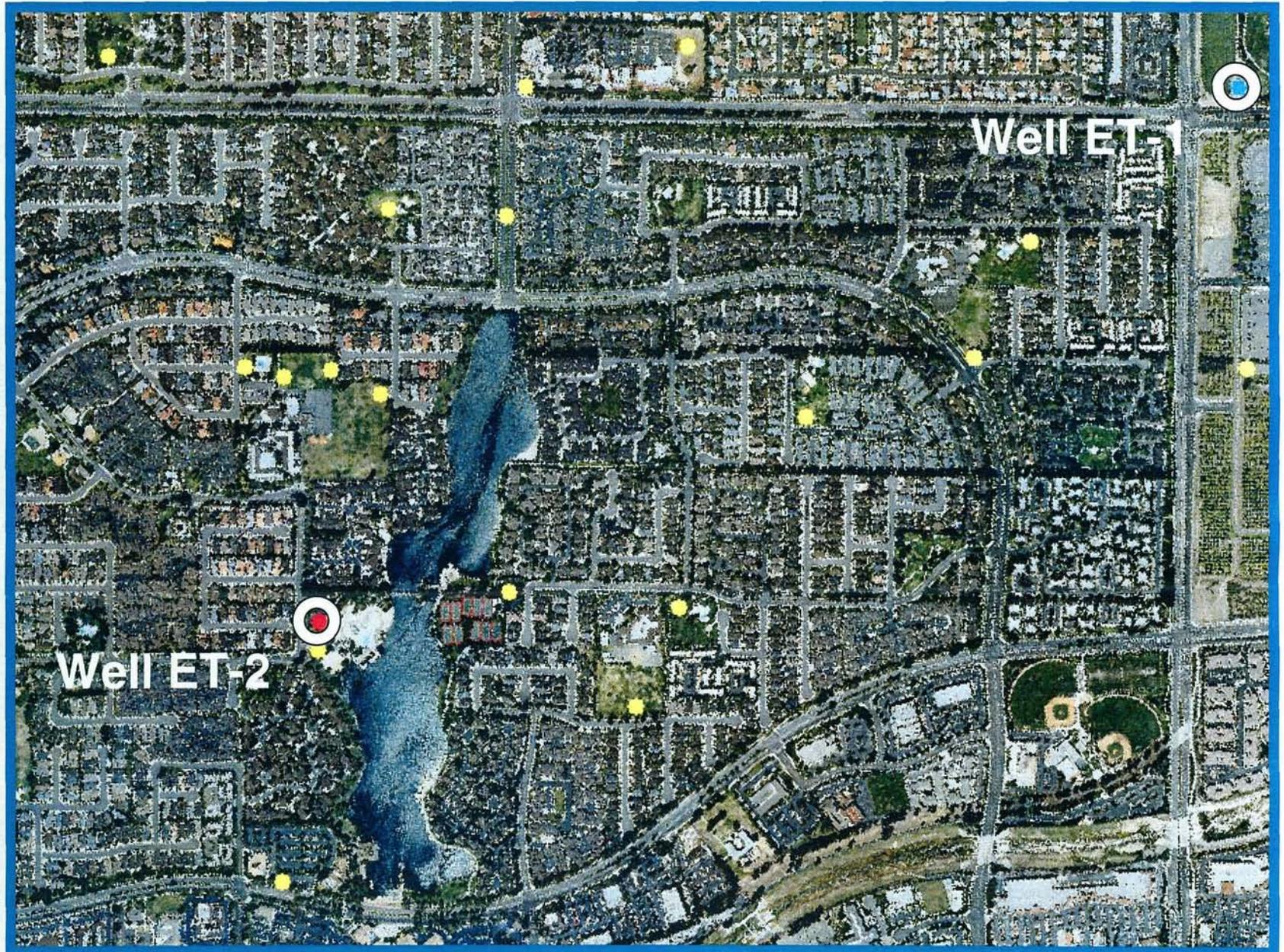


Background map information courtesy of Thomas Bros. Map Company



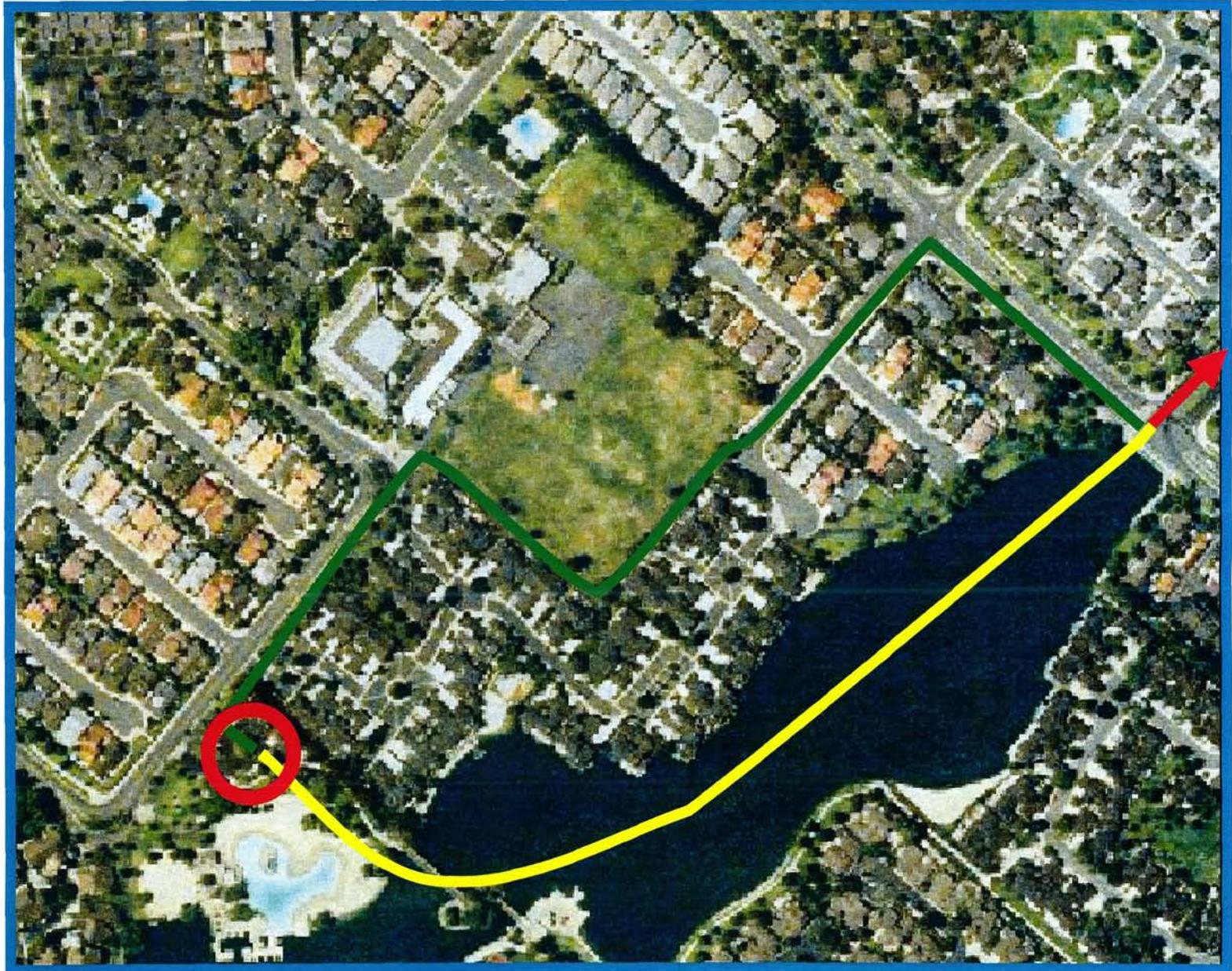
SENSITIVE

Alternate Sites for Well ET-2



SENSITIVE

Well ET-2 Pipeline Routes



SENSITIVE

ET-2 in North Lake Parking Lot



SENSITIVE

Well Site ET-2 @ Wood Lake North Lake



SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
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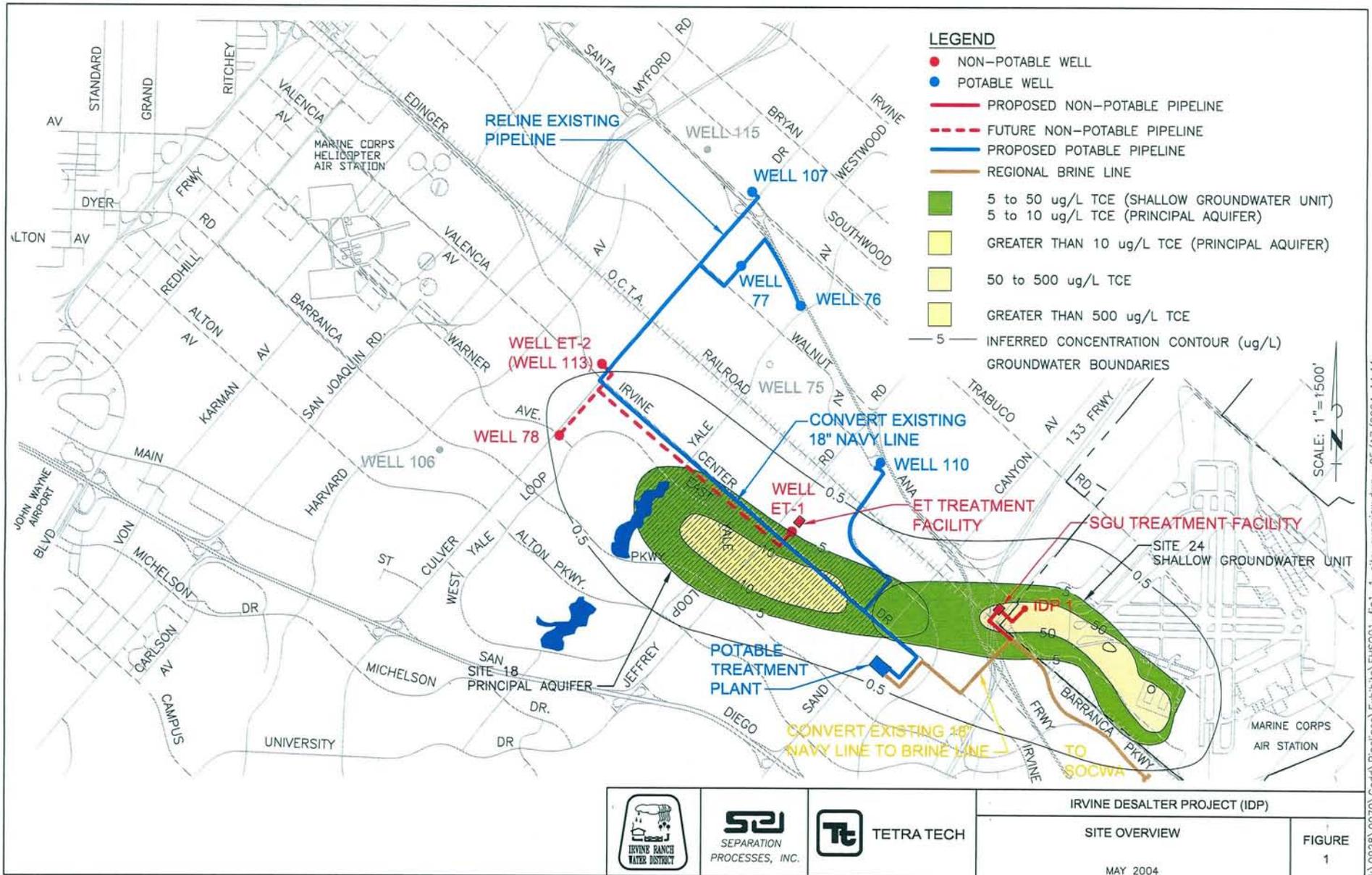
FIGURE 1 – SITE OVERVIEW

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
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SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

SENSITIVE

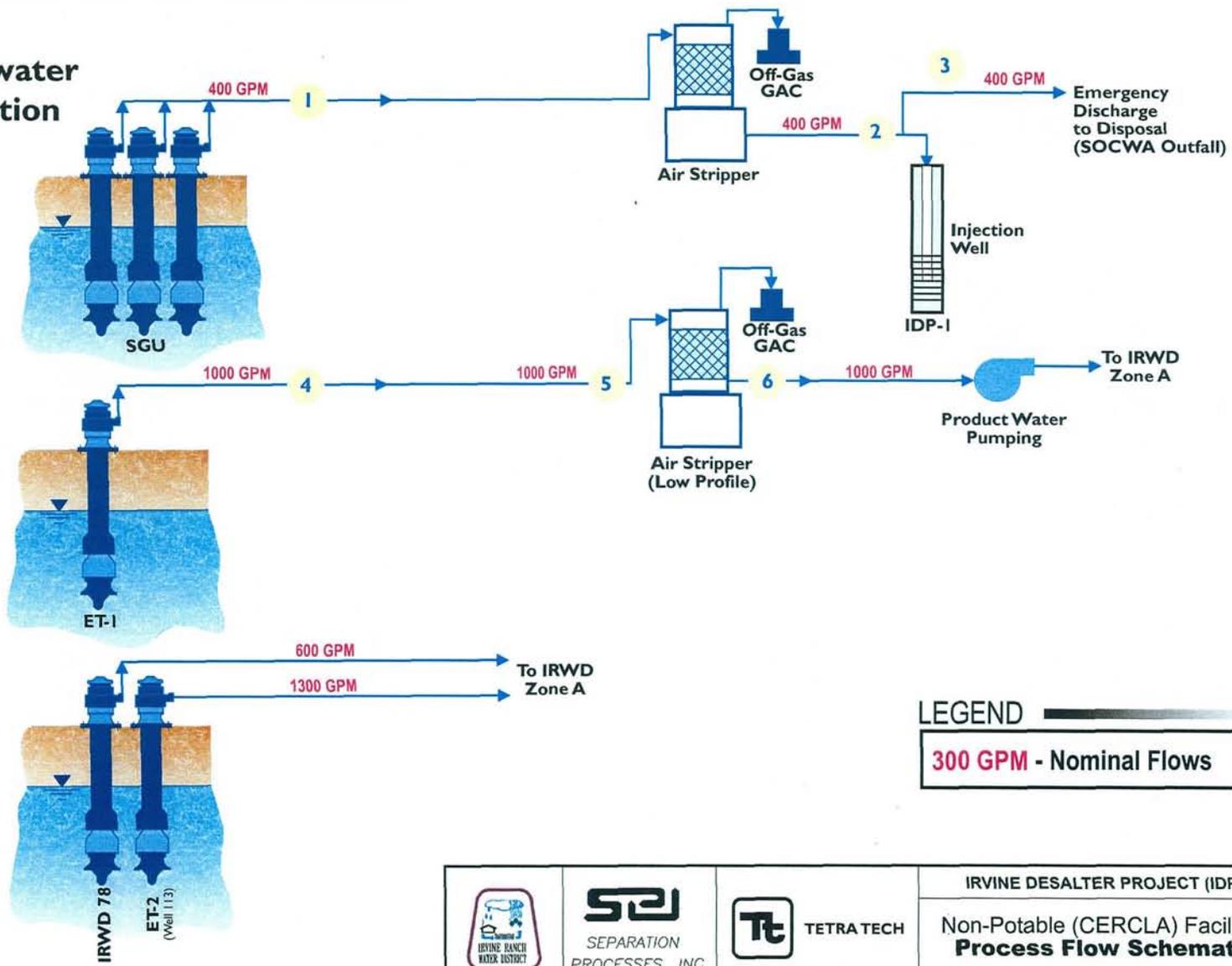


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SENSITIVE

6

Groundwater Production



LEGEND

300 GPM - Nominal Flows

	 SEPARATION PROCESSES, INC.	 TETRA TECH	IRVINE DESALTER PROJECT (IDP)	
			Non-Potable (CERCLA) Facilities Process Flow Schematic	
			MAY 2004	FIGURE 2

G:\CHARTS\IDP CHARTS\IDP-FIGURE 4-REVISED 5-04.CDR 5/17/04

SENSITIVE RECORD

**PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
AND ARE NOT AVAILABLE FOR PUBLIC VIEWING**

PRINCIPAL AQUIFER 5 ug/l PLUME PARTICLE MOVEMENT

FOR ADDITIONAL INFORMATION, CONTACT:

**DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132**

**TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil**

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

***RCRA Corrective Action Complete
Determination &
RCRA Facility Boundary Modification
for
Marine Corps Air Station El Toro***

Tayseer Mahmoud

May 2004

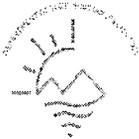
Department of Toxic Substances Control

www.dtsc.ca.gov

Department of Toxic Substances Control

RCRA Hazardous Waste Facility

- CORRECTIVE ACTION COMPLETE DETERMINATION
- FACILITY BOUNDARY MODIFICATION



Department of Toxic Substances Control

What is a Hazardous Waste Facility?

Any facility that treats, stores, recycles or disposes of hazardous waste.



Department of Toxic Substances Control

What is RCRA Corrective Action?

Corrective action is required of a hazardous waste facility to clean up contamination that resulted from past practices.



Department of Toxic Substances Control

RCRA

A RCRA Corrective Action Complete Determination officially recognizes that all hazardous waste and constituent contamination has been cleaned up.



Department of Toxic Substances Control

RCRA

State of California, through DTSC, is obligated to enforce its RCRA hazardous waste control law on behalf of the people of California pursuant to the California Health and Safety Code (H&SC), Division 4, Chapter 6.5. On August 1, 1992, the USEPA granted authorization to DTSC to administer the hazardous waste management program in lieu of the federal Resource Conservation and Recovery Act (RCRA).



Department of Toxic Substances Control

RCRA

- El Toro submitted Part A Application Nov. 14, 1980.
- RCRA Permit Issued June 30, 1986.
- Permit Renewed August 1993
- DTSC accepted Closure Certification for HW Storage area and terminated the permit on March 8, 1996.
Permit Expired on its own terms August 2003



Department of Toxic Substances Control

RCRA Corrective Action Applicability

- Applies to Hazardous Waste and constituents
- Solid Waste Management Units
- Hazardous Waste Management Units



Department of Toxic Substances Control

Solid Waste Management Units

SWMU means any unit at a hazardous waste facility from which hazardous waste constituents might migrate, irrespective of whether the units were intended for management of wastes, including but not limited to:

- containers
- tanks
- surface impoundments
- landfills
- incinerators
- underground injection wells
- land treatment units

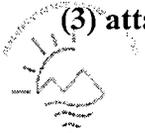


Department of Toxic Substances Control

RCRA

The RCRA Corrective Action Process mirrors the CERCLA response process except CERCLA cannot be used as a legal authority for petroleum releases. The major goals of both processes are the same:

- (1) protect human health and the environment**
- (2) include the public in the decision-making process; and**
- (3) attain effective cleanup standards**



Department of Toxic Substances Control

RCRA

- RCRA and CERCLA, overseen by DTSC, RWQCB, and US EPA
- Underground/ aboveground storage tank cleanup programs overseen by the RWQCB and the Orange County Health Care Agency (OCHCA).



Department of Toxic Substances Control

RCRA

A RCRA Facility Assessment (RFA) was prepared for El Toro in 1993 and an Addendum in 1996. The RFA collected existing information on containment releases and identified releases or suspected releases needing further investigation. The number of units identified was 480.



Department of Toxic Substances Control

RCRA

Corrective Action Complete Determination officially recognizes that all hazardous waste and constituent contamination has been cleaned up. At MCAS El Toro, DTSC proposes to make this determination based on the completion of the investigation and cleanup of hazardous waste and constituent areas conducted under several programs.



Department of Toxic Substances Control

MCAS El Toro's NPL Site Designation

The DTSC determination shall have no effect upon the MCAS El Toro National Priorities List site designation.



Department of Toxic Substances Control

Project is Exempt from CEQA

To comply with CEQA, a draft Notice of Exemption (NOE) has been prepared for this project. DTSC has determined that the proposed RCRA Corrective Action Complete Determination for the FOST parcels and the changes to the Former MCAS El Toro boundaries will not have a significant impact on the environment. The draft NOE is available for review at the Information Repositories.



Department of Toxic Substances Control

Project is Exempt from CEQA

1. The project does not involve any physical activities at the former MCAS El Toro. The project is an administrative decision by DTSC that previously completed investigations and cleanup activities conducted under the regulatory oversight of DTSC, the US EPA, the RWQCB, and the Orange County Health Care Agency, on the property identified in the Finding of Suitability to Transfer (FOST) as Parcel IV and Portions of Parcels I, II, and III, have satisfied the corrective action requirements under RCRA and California Hazardous Waste Control Law. The boundary defining the former MCAS El Toro hazardous waste facility is being modified to exclude the FOST property. No offsite impacts will occur as a result of moving the facility boundaries.



Department of Toxic Substances Control

Project is Exempt from CEQA, Continued

2. The entire former El Toro is listed on the Hazardous Waste and Substances Site List and on the Calsites List. However, for the FOST parcels, all environmental studies and remedial action under CERCLA necessary to protect human health and the environment with respect to hazardous substances remaining on the property have been taken. On this basis, DTSC proposes that RCRA corrective action is complete for these parcels.



Department of Toxic Substances Control

PUBLIC REVIEW AND COMMENT PERIOD May 3 through June 17, 2004

The public is encouraged to comment on the Draft Final FOST and DTSC's proposed Corrective Action Complete Determination and RCRA Facility boundary modification for MCAS El Toro during the 45-day public comment period.



Department of Toxic Substances Control

Documents Available for Review

The Draft Final FOST and associated documents and a copy of the proposed RCRA Corrective Action Complete Determination and RCRA Facility boundary modification are available for public review and comment at MCAS El Toro and at the MCAS El Toro Information Repository.



Department of Toxic Substances Control

Submitting Public Comments

Written comments submitted on the Draft Final FOST should be postmarked, faxed, or e-mailed by **June 17, 2004**, and sent to:

Mr. F. Andrew Piszkin
Base Realignment and Closure Environmental
Coordinator
MCAS El Toro
7400 Trabuco Road, Irvine, CA 92618
Fax: (949) 726-6586
e-mail: Frank.Piszkin@navy.mil



Department of Toxic Substances Control

Submitting Public Comments

Written comments on the proposed RCRA Corrective Action Complete Determination and RCRA Facility boundary modification should be postmarked, faxed, or e-mailed by **June 17, 2004**, and sent to:

Mr. Tayseer Mahmoud
DTSC Project Manager
5796 Corporate Avenue, Cypress, CA 90630
Fax: (714) 484-5437
e-mail: TMahmoud@dtsc.ca.gov

Department of Toxic Substances Control



IRP Site 1

Perchlorate Investigation Update

Presented By

Gordon Brown
SWDIV

and

Crispin Wanyoike
Earth Tech, Inc.

FORMER MCAS EL TORO
RESTORATION ADVISORY BOARD MEETING

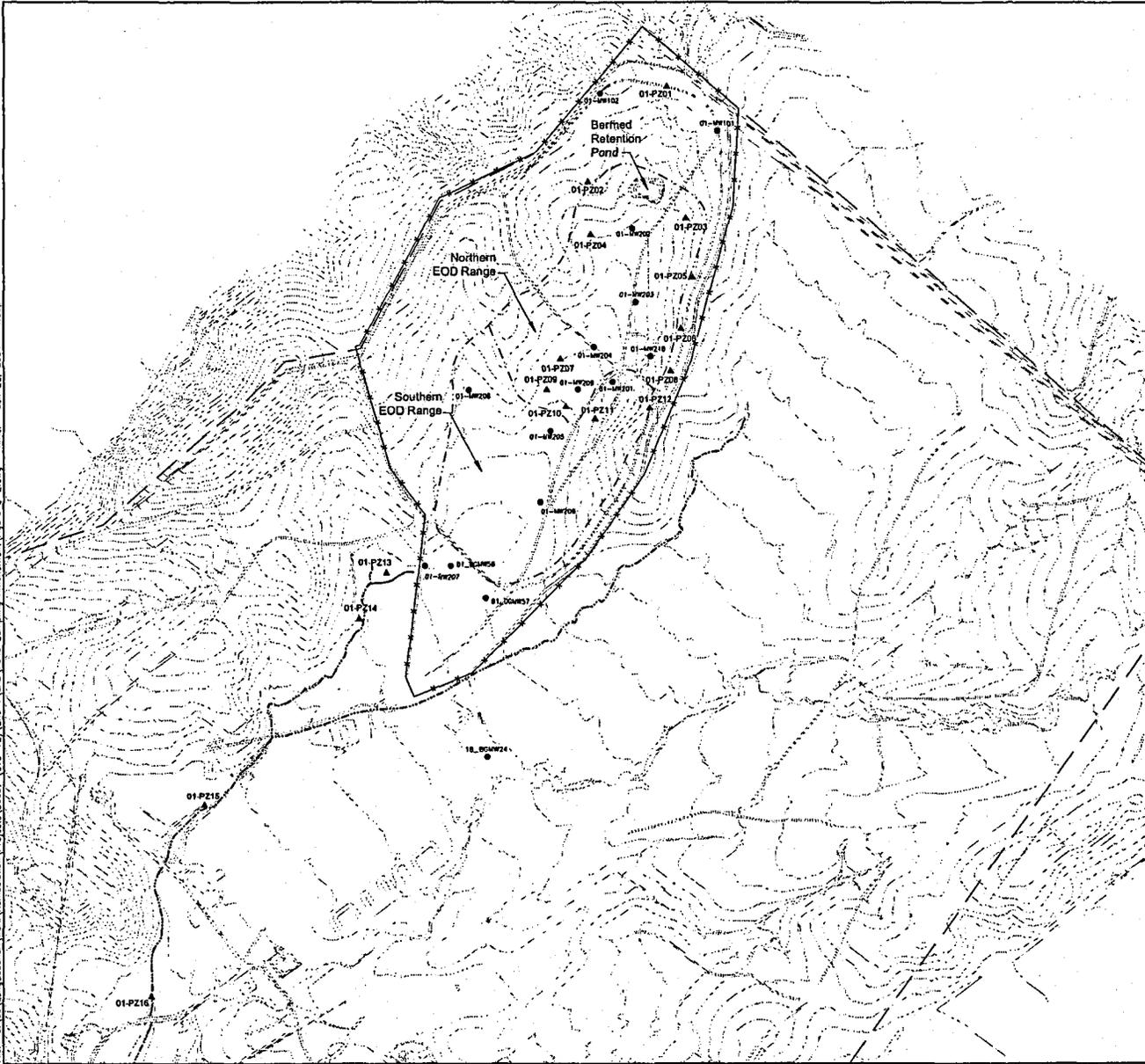
May 26, 2004

Site 1 Description/History



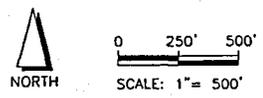
- Approximately 74 acres with the center portion of the site (about 33.5 acres) used for EOD training
- EOD training performed at the site for more than 40 years (~1953-1999)
- Munitions used in training activities included:
 - Cartridge-actuated devices and ammunition
 - FS Smoke (sulfur trioxide chlorosulfonic acid)
 - Hand grenades, land mines
- Northern EOD Range used by military
- Southern EOD Range used by FBI and Orange County law enforcement
- Currently secured by fence/locked gate

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LEGEND:

- MCAS EL TORO BOUNDARY
- SECURITY FENCE/SITE 1 BOUNDARY
- EOD RANGE BOUNDARY
- STREAM OR WASH
- GROUNDWATER MONITORING WELL (4-INCH)
- PIEZOMETER (2-INCH GROUNDWATER MONITORING WELL)



Site 1 Vicinity		
IRP Site 1 - EOD Range		
Date: 03-04	Former MCAS El Toro	Figure
Project No. 38097	 EARTH TECH <small>A TFCO INTERNATIONAL LTD. COMPANY</small>	1

Perchlorate at Former MCAS El Toro



- In 1997, perchlorate was identified at low concentrations in groundwater downgradient of MCAS El Toro during sampling by Orange County Water District
- In response to regulatory agency concerns, the Navy conducted stationwide perchlorate sampling in 1998
- With the exception of a single well at IRP Site 1 (01-MW201), low concentrations of perchlorate (less than 13 micrograms per liter ($\mu\text{g/L}$) were reported at 15 of the 50 on- and off-station locations sampled. Perchlorate was not identified in the remaining 35 samples
- Detected perchlorate concentrations within former MCAS El Toro other than at IRP Site 1 are consistent with locations off-station, with no discernable pattern
- Subsequent stationwide sampling events have confirmed the results, which indicated that significant perchlorate contamination is confined to IRP Site 1

3

IRP Site 1 Perchlorate Investigation Update

5/26/2004

Perchlorate at IRP Site 1



- In 1999, the Navy conducted an investigation to verify the presence and assess the extent of perchlorate in groundwater at IRP Site 1
 - Six groundwater monitoring wells installed
 - The six wells were sampled along with the 6 wells that already existed at IRP Site 1
 - The evaluation concluded that the perchlorate is confined to the central portion of IRP Site 1

4

IRP Site 1 Perchlorate Investigation Update

5/26/2004

Site 1 Remedial Investigation Activities Completed



- Tier I – January 2002
 - Sampled 12 Groundwater Monitoring Wells (analyzed for all contaminants of potential concern [COPCs])
 - 85 Direct Push Soil Samples from 39 Locations (analyzed for all COPCs)
- Tier II – January through April 2002
 - Ordnance and Explosives (OE) Range Evaluation
 - Surface survey, geophysical survey, subsurface OE sampling
 - 37 Soil Samples from OE investigation trenches/potholes (analyzed for all COPCs)
- Tier III-A – May 2002
 - 3 New Groundwater Monitoring Wells Installed
 - Sampled the 3 New Groundwater Monitoring Wells (COPCs) and 5 Existing Wells (analyzed for perchlorate only)
 - Soil Samples Collected from 1 Soil Boring from Tier II Pothole Location (analyzed for all COPCs)
- Tier III-B – January-February 2003
 - Installed 16 Piezometers (2-inch Monitoring Wells) (analyzed for perchlorate only)
 - Sampled the 16 Piezometers and 7 Groundwater Monitoring Wells (analyzed for perchlorate only)

5

IRP Site 1 Perchlorate Investigation Update

5/26/2004

Screening Ecological Risk Assessment (SERA)



- Soil and groundwater sampling conducted as part of Phase II RI 2002 to present
- Screening Ecological Risk Assessment (SERA) for Site 1 conducted using soil data collected during RI activities and submitted to regulatory agencies February 2003
- Subsequent to SERA, discussions were held between DON and USFWS, EPA, DTSC, and CRWQCB regarding sampling in the bermed retention pond in order to determine if past Site 1 ordnance training activities have negatively impacted Riverside fairy shrimp (a Federally endangered species)
 - Initially, no soil sampling was to be conducted in the bermed retention pond due to absence of significant anomalies in the pond (surface water was to be collected if available)
 - No ponding or accumulation contributing to surface water flow has been observed 1999-present
 - DON agreed to conduct soil sampling; however, sampling has not yet occurred

6

IRP Site 1 Perchlorate Investigation Update

5/26/2004

Groundwater Perchlorate Sampling Results



- Results indicate a potential Source Area in the Central Portion of Site 1

- Most recent sampling round indicated concentrations up to 442 µg/L (01-PZ07) in the central portion of the site, with other wells nearby showing similarly high concentrations

- 01-MW210 = 264 µg/L

- 01-MW201 = 94.6 µg/L

- 01-PZ09 = 97.2 µg/L

- Areas south of IRP Site 1 show concentrations up to 34.7 µg/L (01-PZ15), with lower concentrations upgradient (north) and downgradient (south) from that location

7

IRP Site 1 Perchlorate Investigation Update

5/26/2004

Additional Perchlorate Groundwater Contamination Data Gaps



- Additional Investigation Required to:

- Assess the extent of perchlorate contamination in the central portion of the site

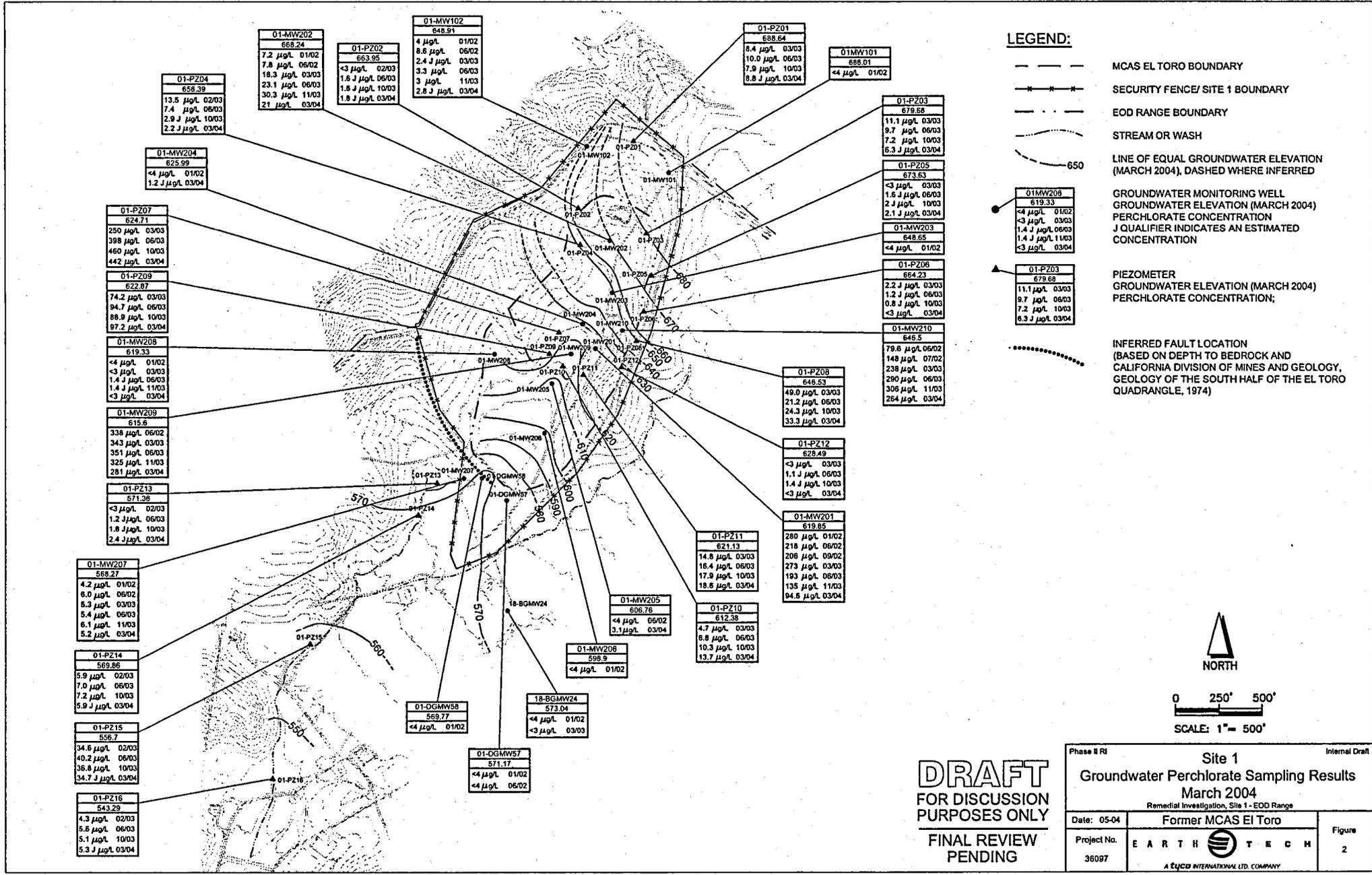
- Assess the extent of perchlorate contamination near location 01-PZ15 (south of Site 1), as well as south of location 01-PZ16, between IRP Site 1 and IRP Site 2

- Additional sampling rounds needed to assess perchlorate concentration trends at Site 1

8

IRP Site 1 Perchlorate Investigation Update

5/26/2004



01-PZ04	656.39
13.5 µg/L	02/03
7.4 µg/L	05/03
2.9 J µg/L	10/03
2.2 J µg/L	03/04

01-MW204	625.99
<4 µg/L	01/02
1.2 J µg/L	03/04

01-MW202	668.24
7.2 µg/L	01/02
7.8 µg/L	06/02
18.3 µg/L	03/03
23.1 µg/L	06/03
30.3 µg/L	11/03
21 µg/L	03/04

01-PZ02	653.95
<3 µg/L	02/03
1.8 J µg/L	06/03
1.8 J µg/L	10/03
1.8 J µg/L	03/04

01-MW102	648.81
4 µg/L	01/02
8.6 µg/L	06/02
2.4 J µg/L	03/03
3.3 µg/L	09/03
3 µg/L	11/03
2.8 J µg/L	03/04

01-PZ01	688.64
8.4 µg/L	03/03
10.0 µg/L	06/03
7.9 µg/L	10/03
8.8 J µg/L	03/04

01-MW101	688.01
<4 µg/L	01/02

01-PZ03	679.68
11.1 µg/L	03/03
9.7 µg/L	06/03
7.2 µg/L	10/03
6.3 J µg/L	03/04

01-PZ05	673.63
<3 µg/L	03/03
1.6 J µg/L	06/03
2 J µg/L	10/03
2.1 J µg/L	03/04

01-MW203	648.65
<4 µg/L	01/02

01-PZ06	664.23
2.2 J µg/L	03/03
1.2 J µg/L	06/03
0.8 J µg/L	10/03
<3 µg/L	03/04

01-MW210	646.5
79.6 µg/L	06/02
148 µg/L	07/02
238 µg/L	03/03
290 µg/L	06/03
306 µg/L	11/03
264 µg/L	03/04

01-PZ08	648.53
49.0 µg/L	03/03
21.2 µg/L	06/03
24.3 µg/L	10/03
33.3 µg/L	03/04

01-PZ12	678.49
<3 µg/L	03/03
1.1 J µg/L	06/03
1.4 J µg/L	10/03
<3 µg/L	03/04

01-MW201	619.85
280 µg/L	01/02
218 µg/L	06/02
206 µg/L	09/02
273 µg/L	03/03
193 µg/L	06/03
135 µg/L	11/03
94.6 µg/L	03/04

01-PZ11	621.13
14.8 µg/L	03/03
16.4 µg/L	06/03
17.9 µg/L	10/03
18.6 µg/L	03/04

01-MW205	606.76
<4 µg/L	06/02
3.1 µg/L	03/04

01-MW206	598.9
<4 µg/L	01/02

18-BGMW24	573.04
<4 µg/L	01/02
<3 µg/L	03/03

01-DGMW57	571.17
<4 µg/L	01/02
4 µg/L	06/02

01-DGMW58	569.77
<4 µg/L	01/02

01-MW207	568.27
4.2 µg/L	01/02
6.0 µg/L	06/02
5.3 µg/L	03/03
5.4 µg/L	06/03
6.1 µg/L	11/03
5.2 µg/L	03/04

01-PZ14	569.86
5.9 µg/L	02/03
7.0 µg/L	06/03
7.2 µg/L	10/03
5.9 J µg/L	03/04

01-PZ15	558.7
34.6 µg/L	02/03
40.2 µg/L	06/03
36.8 µg/L	10/03
34.7 J µg/L	03/04

01-PZ16	543.29
4.3 µg/L	02/03
5.5 µg/L	06/03
5.1 µg/L	10/03
5.3 J µg/L	03/04

DRAFT
FOR DISCUSSION
PURPOSES ONLY

FINAL REVIEW
PENDING

Phase II RI	Site 1	Internal Draft
Groundwater Perchlorate Sampling Results		
March 2004		
Remedial Investigation, Site 1 - EOD Range		
Date: 05-04	Former MCAS El Toro	Figure
Project No. 36097	EARTH TECH	2
A tyco INTERNATIONAL LTD. COMPANY		

Schedule



- Field Change #3, Revision 1 to be issued – June 2004
- BCT Concurrence on Field Change #3, Revision 1 anticipated by the end June 2004
- Monitoring Well installation and sampling July 2004
- Perchlorate groundwater sampling results available August 2004

- PUBLIC NOTICE -
MARINE CORPS AIR STATION EL TORO
Finding of Suitability for Transfer (FOST)
and
Proposed RCRA Corrective Action Complete Determination
and
RCRA Facility Boundary Modification

The Department of the Navy invites the public to review and comment on a Draft Final Finding of Suitability to Transfer (FOST) for certain property at the former Marine Corps Air Station (MCAS) El Toro. The Draft Final FOST concludes that property specifically identified in that document is environmentally suitable for transfer in accordance with Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act.

The California Department of Toxic Substances Control (DTSC) invites the public to review and comment on a proposed Resource Conservation Recovery Act (RCRA) Corrective Action Complete Determination and RCRA hazardous waste facility boundary modification. DTSC finds that all necessary contamination clean up has been completed on the property described in the FOST and proposes to exclude this property from the MCAS El Toro RCRA hazardous waste facility property boundary. A summary of DTSC's proposed Corrective Action Complete Determination and RCRA facility boundary modification has been included in the Draft Final FOST as a section of that document. DTSC has prepared a California Environmental Quality Act Notice of Exemption for the RCRA Determination and facility boundary modification.

MCAS El Toro is a RCRA hazardous waste facility (Facility). Its operating permit expired on August 18, 2003. Corrective action is required at RCRA Facilities to investigate and clean up contamination in the soil and groundwater from past practices. The Draft Final FOST documents that all necessary corrective action has been completed for the property proposed for transfer by deed. DTSC has determined that corrective action requirements continue to apply to the remaining MCAS El Toro property. The maps and detailed descriptions of the property are included in the FOST. This DTSC determination shall have no effect upon the MCAS El Toro National Priorities List site designation.

PUBLIC REVIEW AND COMMENT PERIOD
May 3 through June 17, 2004

The public is encouraged to comment on the Draft Final FOST and DTSC's proposed Corrective Action Complete Determination and RCRA Facility boundary modification for MCAS El Toro during the 45-day public comment period.

The Draft Final FOST and associated documents and a copy of the proposed RCRA Corrective Action Complete Determination and RCRA Facility boundary modification are available for public review and comment at MCAS El Toro and at the MCAS El Toro Information Repository. To review copies of these documents at MCAS El Toro, please contact Ms. Marge Flesch at (949) 726-5398. The Information Repository is located at:

Heritage Park Regional Library, 14361 Yale Avenue, Irvine, California, (949) 551-7151 (call for current hours).

Access to review public records supporting the Santa Ana Regional Water Quality Control Board or Orange County Health Care Agency cleanup and corrective action decisions for underground storage tanks and above-ground storage tanks relied upon in the Draft Final FOST and proposed RCRA Corrective Action Complete Determination and RCRA Facility boundary modification, including "no further action" decisions, may be reviewed by contacting the Santa Ana Regional Water Quality Control Board at (909) 782-4499 or the Orange County Health Care Agency at (714) 834-3536.

Submitting Public Comments

Written comments submitted on the Draft Final FOST should be postmarked, faxed, or e-mailed by **June 17, 2004**, and sent to:

Mr. F. Andrew Piszkin
Base Realignment and Closure Environmental Coordinator
MCAS El Toro
7400 Trabuco Road, Irvine, CA 92618
Fax: (949) 726-6586
e-mail: Frank.Piszkin@navy.mil

Written comments on the proposed RCRA Corrective Action Complete Determination and RCRA Facility boundary modification should be postmarked, faxed, or e-mailed by **June 17, 2004**, and sent to:

Mr. Tayseer Mahmoud
DTSC Project Manager
5796 Corporate Avenue, Cypress, CA 90630
Fax: (714) 484-5437
e-mail: TMahmoud@dtsc.ca.gov

For more information on the Draft Final FOST, please call Mr. Piszkin at (619) 532-0784. For more information on the RCRA Corrective Action Complete Determination and RCRA Facility boundary modification, please call Mr. Mahmoud at (714) 484-5419.



**Notice
of
Proposed Corrective Action Complete
Determination
Former Marine Corps Air Station El Toro
Orange County, California**



The California Department of Toxic Substances Control (DTSC) is providing this notice to the community to review and comment on a proposed Resource Conservation and Recovery Act (RCRA) Corrective Action Complete Determination at the Former Marine Corps Air Station (MCAS) El Toro. This notice provides information regarding the purpose of the determination, the property subject of this determination, and opportunity for public comment.

Introduction

MCAS El Toro was commissioned in 1943 as a Marine Corps pilot fleet operation training facility and was expanded into a master jet station and Marine Corps aviation center. The facility included runways, aircraft maintenance, training facilities, housing, and other support facilities. MCAS El Toro was operationally closed in July 1999. The majority of the facilities are now vacant and the primary activities at the station are caretaker-related activities and environmental investigation and cleanup of contaminated properties.

What is RCRA Corrective Action?

Corrective action is required of a hazardous waste facility to clean up contamination that resulted from past practices on their entire property. A hazardous waste facility is any facility that treats, stores, or disposes hazardous waste in accordance with authorization issued under RCRA. MCAS El Toro had a RCRA permit that expired in August 2003. Permitted facilities are required to clean up contaminated soil, surface water, and groundwater to protect human health and the environment under a process known as corrective action.

A RCRA Corrective Action Complete Determination officially recognizes that all hazardous waste contamination has been cleaned up. It allows the Navy to transfer clean parcels at Former MCAS El Toro to new owners without transfer of the liability for corrective action.

At MCAS El Toro, DTSC proposes to make this determination based on the completion of the investigation and cleanup of

Public Comment Period

**May 3, 2004
to
June 17, 2004**

The Department of Toxic Substances Control (DTSC) invites you to review and comment on the proposed Corrective Action Complete Determination for Parcel IV and Portions of Parcels I, II, and III at the Former MCAS El Toro, as described in the Navy's Finding of Suitability to Transfer (FOST). As the proposed determination will not create a significant effect upon the environment, DTSC has proposed a California Environmental Quality Act (CEQA) Notice of Exemption, which will also be available for review.

All written comments must be postmarked no later than June 17, 2004, and should be mailed or e-mailed to:

Tayseer Mahmoud
Project Manager
DTSC
5796 Corporate Avenue
Cypress, CA 90630

(714) 484-5419
tmahmoud@dtsc.ca.gov

hazardous waste areas conducted under several programs. These programs are the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), overseen by DTSC, the Regional Water Quality Control Board (RWQCB) and the United States Environmental Protection Agency (U.S. EPA), and the underground/aboveground storage tank cleanup programs overseen by the RWQCB and the Orange County Health Care Agency (OCHCA). Where the Orange County Health Care Agency or the Santa Ana Regional Water Quality Control Board has provided regulatory closure letters, DTSC has not conducted independent evaluations of these actions and is basing its determination on the respective agency findings.

Not all of MCAS El Toro has been cleaned up. The Navy is retaining ownership of 994.7 acres that are not currently suitable for transfer due to ongoing investigation and cleanup work. RCRA Closure and Corrective Action requirements continue to apply to the retained property. A map showing the original and revised MCAS El Toro hazardous waste facility boundaries is attached.

The Land Proposed for Transfer

The Navy's Finding of Suitability to Transfer (FOST) documents the environmental suitability of federally owned property at MCAS El Toro for transfer to non-federal ownership consistent with CERCLA and Department of Defense policy. The FOST identifies notifications and restrictions necessary to protect human health and the environment that apply to the property being transferred.

The Draft Final FOST (Parcel IV and Portions of Parcels I, II, and III), Former Marine Corps Air Station El Toro, California, May 2004, summarizes the Navy's environmental investigation and cleanup activities conducted for each of the parcels proposed for transfer.

The FOST provides the necessary disclosure, notifications, and use restrictions that apply to each parcel. The use restrictions will be included in the deed for each parcel. The transferring parcels in the FOST comprise 2798 acres of the former MCAS El Toro. Each parcel was evaluated for hazardous substance releases that may have occurred based on the types of historic activities. These areas are identified as Locations of Concern. The locations include sites where waste was handled, known spill or disposal sites, storage tanks, waste-water treatment system sites, PCB transformers, and other miscellaneous sites. The FOST concludes that corrective action has been completed for all Locations of Concern within the transferring parcels.

Parcel	Acreage	Number of Facilities	Locations of Concern
I	809.5	225	218
II	1439.6	1078	201
III	329	10	17
IV	219.4	0	0

For more information about the parcels, please see the FOST in its entirety.

This DTSC determination shall have no effect upon the MCAS El Toro National Priorities List site designation.

California Environmental Quality Act Notice of Exemption

A draft Notice of Exemption (NOE) has been prepared for this project. DTSC has determined that the proposed RCRA Corrective Action Complete Determination for the FOST parcels and the changes to the Former MCAS El Toro boundaries will not have a significant impact on the environment. The draft NOE is available for review at the Information Repositories.

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

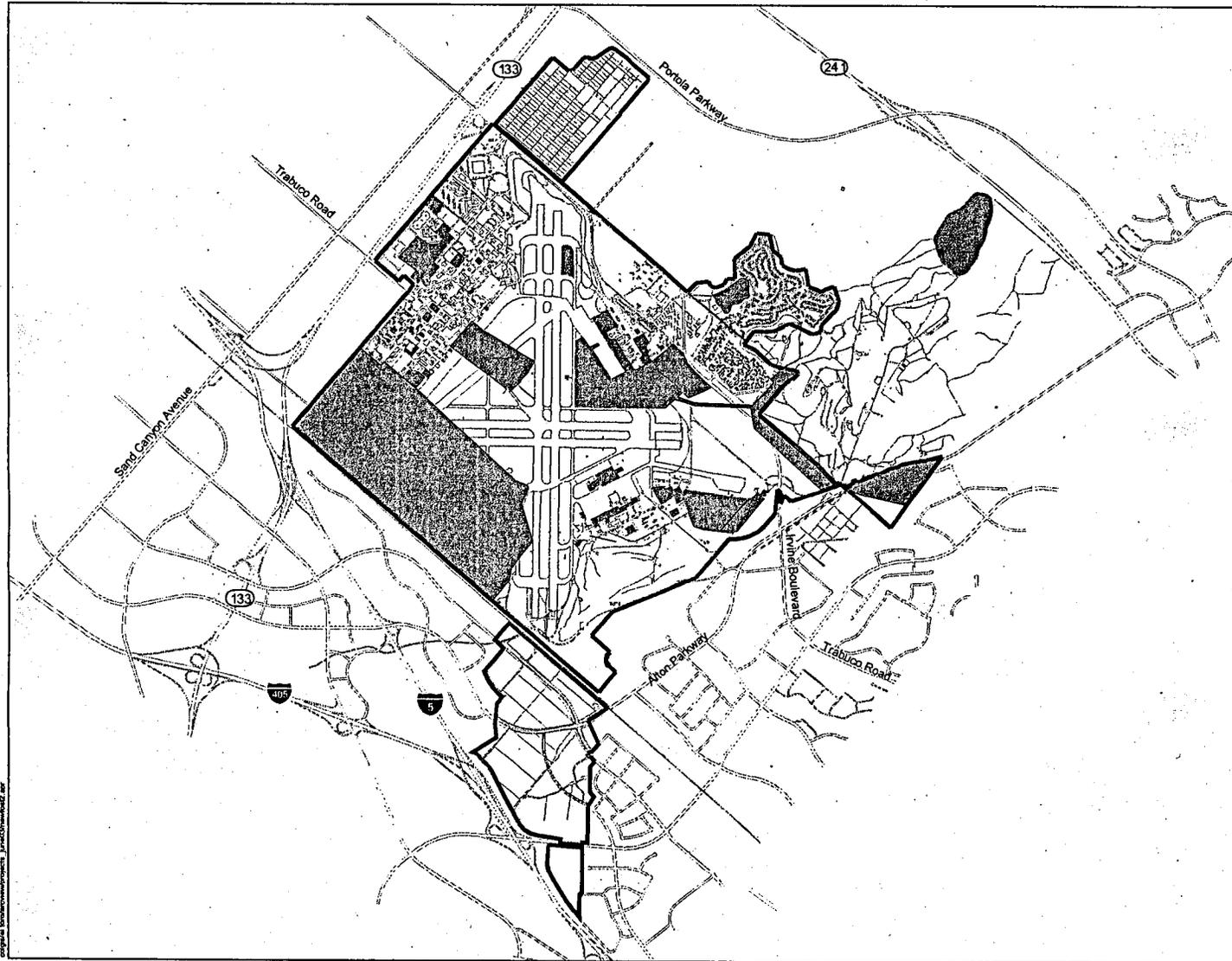
ATTACHMENT 8 – REVISED FACILITY BOUNDARY

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

SENSITIVE



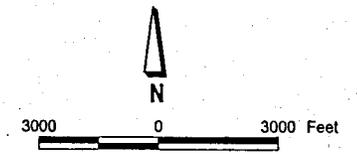
LEGEND

-  Property Boundary
-  Roads
-  Revised Boundary
-  Corrective Action Completion Determination Area

SOURCE

Final Environmental Baseline Survey,
Former Marine Corps Air Station
El Toro, California. Earth Tech 2003.

Draft Final Rev. 2
3 May 2004



Attachment 8
Revised Facility Boundary
Former MCAS El Toro
California

SENSITIVE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

April 22, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
Marine Corps Air Station, El Toro
7040 Trabuco Road
Irvine, CA 92618

RE: Federal Facility Agreement Schedule Extension Request, Operable Unit (OU-1),
Installation Restoration Program (IRP) Sites 18 and 24, Remedial Design Documents,
MCAS El Toro, dated April 16, 2004

Dear Mr. Piszkin:

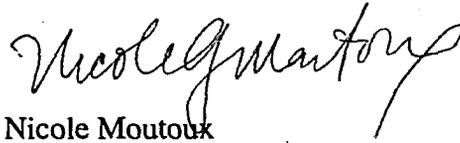
We have received your request for an extension on the 90% Remedial Design deliverable for both Sites 18 and 24. As the BCT discussed at the April 1, 2004 meeting, we understand that the need for the extension at Site 24 is to address requests made by regulatory agencies to incorporate information gathered as part of the Pre-Design Investigation, namely updating the groundwater model, including soil vapor extraction into the Shallow Groundwater Unit remedial design and providing more information about performance monitoring. We understand the reason for the extension to the Site 18 deliverables is due to IRWD's difficulty in obtaining an extraction well site and their need to make design changes including changing the location of Extraction Well 2 and relocating the VOC treatment facilities for both the principal aquifer groundwater and the Shallow Groundwater Unit water.

We concur with the requested extension to submit the Site 18 90% Remedial Design on September 7, 2004 and the Site 24 90% Remedial Design on June 2, 2004.

In addition, as suggested in a previous e-mail to Karnig Ohannessian, EPA requests that the Navy send a revised schedule for both sites showing the revised deliverable dates along with the rest of the scheduled deliverable dates for the sites.

If you have any questions, please call me at (415)972-3012.

Sincerely,

A handwritten signature in black ink, appearing to read "Nicole Moutoux". The signature is fluid and cursive, with the first name "Nicole" being more prominent than the last name "Moutoux".

Nicole Moutoux
Project Manager
Federal Facilities Cleanup Branch

cc: Tayseer Mahmoudi, DTSC
Karnig Ohannessian, SWDIV
John Broderick, RWQCB
Bob Woodings, RAB Co-Chair
Marcia Rudolph, RAB Subcommittee chair



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 4, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
Marine Corps Air Station, El Toro
7040 Trabuco Road
Irvine, CA 92618

RE: Extension Request to Federal Facility Agreement Schedule for OU-2B, Landfill Sites 2 and 17, Former Marine Corps Air Station, El Toro, dated April 26, 2004

Dear Mr. Piszkin:

EPA has received the Navy's request for an extension for the Final Remedial Design, Draft Operation and Maintenance Plan, and Draft Remedial Action Report for IRP Landfill sites 2 and 17. The Navy's stated reason for the extension is to work through issues raised by the Regional Water Quality Control Board in September 2003. While we understand that various technical documents were worked on since September, we believe that the Navy has had ample time to complete the design and that no further extension requests should be necessary after this one.

In addition, as discussed on a conference call on April 28, we request that the Navy submit the responses to all comments and issues raised since September 2003 as well as any other responses that have not been formally issued, prior to submitting the entire design package. It has been several months since the regulators have reviewed documents related to Sites 2 and 17, and in order to make our review of the design package most efficient and effective, we request that the Navy send the response to comments at least two weeks prior to sending the design package.

We concur with the request to extend submittal dates for the Final Remedial Design to June 22, 2004, the Draft Operation and Maintenance Plan to June 6, 2005, and the Draft Remedial Action Report to August 31, 2005. If you have any questions, please call me at (415) 972-3012.

Sincerely,

A handwritten signature in black ink that reads "Nicole Moutoux".

Nicole Moutoux
Project Manager
Federal Facilities Cleanup Branch

cc: Tayseer Mahmoud, DTSC
John Broderick, RWQCB
Gordon Brown, SWDIV
Marcia Rudolph, RAB Subcommittee Chair
Bob Woodings, RAB Co-Chair



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 13, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
Marine Corps Air Station, El Toro
7040 Trabuco Road
Irvine, CA 92618

RE: Draft Site Assessment Report, IRP Site 16, Former Marine Corps Air Station, El Toro,
dated March 30, 2004

Dear Mr. Piszkin:

EPA has reviewed the draft Site Assessment Report for IRP Site 16 at MCAS El Toro. The report presents results of field activities to further evaluate total petroleum hydrocarbons as well as residual volatile organic compounds that may remain entrained in the TPH in the soil.

In general, we found that the report provided valuable information about both the TPH and the VOC contamination remaining in soil at Site 16. As noted in our enclosed comments, the report would be more complete if a discussion of next steps based on the conclusions and recommendations was included in the report.

If you have any questions, please call me at (415)972-3012.

Sincerely,

A handwritten signature in cursive script that reads "Nicole Moutoux".

Nicole Moutoux
Project Manager
Federal Facilities Cleanup Branch

cc: Tayseer Mahmoud, DTSC
John Broderick, RWQCB
Bob Woodings, RAB Co-Chair
Marcia Rudolph, RAB Subcommittee Chair
Marc Smits, SWDIV

EPA Comments on Draft Site Assessment Report IRP Site 16
MCAS El Toro
May, 2004

General Comments

1. The Discussion and Recommendations section recommends use of SVE to remove remaining TPH and TCE contamination but there is no discussion of next steps. Please provide a discussion of how these recommendations will be followed up on for both TPH and TCE contamination.
2. There is no figure for TPHd in soil at depths of 0-20 feet below ground surface (bgs), which would be the interval most useful for depicting the contamination at the hand-held fire-training pit as well as the down gradient northwestern edge of the main pit plume. Please provide a figure for shallow soil, especially since TPH at IRP16-CB-01 and IRP16-CB-02 is high.
3. Appendix B, Figure 1-2 is a reproduction of a 1980 aerial photograph that shows that the impacted area extends beyond the three pits in Units 1 and 2. This extended area to the southwest was included in the sampling for this investigation. However, it appears that there may be a "finger" of impacted ground that extends to the southeast off of the southwest extension that was not included in sampling. As this is a poor reproduction, this "finger" may be a result of the quality of the figure. Please include an explanation why sampling was not considered necessary in this area.
4. Unit 3 is the drainage ditch for Units 1 and 2, and yet the impacted ground described in comment #3 appears in the aerial photograph to be associated with drainage outside of Unit 3. Please clarify how the ground outside of the fire-fighting pits and drainage ditch was impacted by fire-fighting activities.
5. One of the primary objectives of this assessment was to completely delineate the vertical and lateral extent of TPH in the vadose zone(see first bullet on page 1-3). This does not appear to have been achieved in this report. Please discuss how this remaining data gap will be addressed.

Specific Comments

1. **Section 5.1, Site Geology, Page 5-1:** This section includes a written description of the general site stratigraphy rather than providing a visual representation of the stratigraphy. As there are lithologic data for the borings, it would be helpful to have that data mapped to assess the potential for vertical and horizontal migration of TPH and VOCs. Please

provide a stratigraphic cross-section.

2. **Section 5.1, Site Geology, Page 5-1:** There is a finer grained unit at 80 to 100 feet bgs that the text states impedes vertical migration of contaminants. The presence of a TPHd concentration of 4800 mg/kg and a TPHg concentration of 5,100 mg/kg at about 110' bgs at boring IRP16_CB11 contradicts the above statement; the higher values from samples taken at shallower depths within the same boring could represent the general trend from high concentrations at the surface release area to lower concentrations at depth due to dispersion. Other borings do not have elevated TPH concentrations below this fine grained unit, and thus it may be that the unit impedes downward migration but not consistently. A stratigraphic representation of the area would aid in determining the downward mobility of the contaminants. The permeability and continuity of this fine grained layer (and others) will be important in determining the feasibility of remedial options. Please address this by providing a visual stratigraphic representation and discussing possible reasons for the difference in downward migration.
3. **Section 5.2, Petroleum Hydrocarbons, Page 5-2:** Both TPHd and TPHg data are posted on Figures 8 through 12, but only TPHd is contoured. Please explain the lack of TPHg data and isocontours.
4. **Section 5.3, Volatile Organic Compounds, Page 5-3:** There are two different residential PRGs listed for TCE in this section: 53 ug/kg in paragraph 1 and 52 ug/kg in paragraph 2. Please correct this error.
5. **Section 5.4, Discussion, Page 5-4:** The text suggests that there is either an increase in TPH concentration with depth or the site assessment boring was located in a zone of higher concentration for this assessment, but that either way, the extent of TPH analytes is sufficiently defined to evaluate potential impacts to groundwater. If the differences in TPH concentration between past investigations and the current assessment are due to downward migration, the contamination problem could be much greater than simply a different screened interval. Please provide more explanation for why TPH contamination is sufficiently defined.
6. **Section 5.4, Discussion, Page 5-4:** It is stated that VOCs at low concentrations are more widely distributed than TPH, but that they are likely still entrained together, as the detection limit is much lower for VOCs. Rather than simply providing numbers of samples that apparently have similar TPH and VOC contamination problems it would be very helpful to have a visual representation of the delineation of the VOC contamination to compare to the extent of the TPH plumes. Please consider providing this figure for comparison.
7. **Section 7.0, Discussion and Recommendations, Page 7-2:** Again, the last paragraph discusses the need for three or four separate screened intervals in nested or clustered wells to remediate soil gas because of differences in permeability. It would be helpful to have a stratigraphic cross-section to refer to.

8. **Figure 4, TPH in Soil:** There appear to be two wells on the down gradient edge of the main pit TPH plume that have high surface soil concentrations of TPH and have no wells further down gradient with which to confirm non-detect concentrations. At 5 feet bgs, IRP16-CB-01 has a TPHd concentration of 18,000 mg/kg, while IRP16-CB-02 has a TPHd concentration of 13,000 mg/kg and a TPHg concentration of 9900 mg/kg. Figure 5, Detected VOC Analytes in Soil, indicates that concentrations of TCE are also elevated, at concentrations of 1,400 ug/kg and 2,700 ug/kg at 5 and 10 feet bgs respectively, at IRP16-CB-02. It does not seem like the extent of either TPH or TCE contamination at the northwestern edge of Unit 1 are adequately characterized at this point. It is possible that these contaminants are present further northwest at concentrations of concern, both at the surface and subsurface. Please address this concern, including whether the proposed locations for SVE wells will include these two locations within the Radius of Influence.
9. **Figure 5, Detected VOC Analytes in Soil, and Table 2, Summary of Analytical Results for Soil Samples Collected July 2003:** There are some sample locations with very high non-detect values for VOCs, ex. IRP16-CB-11, IRP16-CB-13, and IRP16-CB-02, and there does not appear to be any explanation for this in the main text or appendices. Please provide an explanation for these high non-detects.
10. **Figure 7, Cross-Section B-B', TPH in Soil:** Boring 16AB213 ends at a total depth of 60' bgs and TPH concentrations of 7,040 mg/kg (TPHd) and 4,690 mg/kg (TPHg). Thus, the extent of vertical contamination at this boring log is incomplete. Please explain how the non-detect isocontour was drawn around this boring, and how this data gap will be addressed.

Minor Comments

1. Page 6-5 contains a couple of editorial errors. The first paragraph in the Evaluation of Results section uses the word "effecting" when it should be "affecting". The fourth bullet in this same section uses the word "acceptor" twice rather than "receptor".
2. Figure 3, Sample Location Map: There is a symbol used frequently on this figure and others that is not defined in the legend. Please check to make sure that all symbols used in a figure are defined in the legend.
3. Figure 3, Sample Location Map: There are two boundaries drawn around the main pit. Please explain.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 19, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
Marine Corps Air Station, El Toro
7040 Trabuco Road
Irvine, CA 92618

RE: EPA comments on Draft Final Sampling and Analysis Plan, Amendment No. 1, Phase II
Remedial Investigation IRP Site 1, Former Marine Corps Air Station El Toro, dated
March, 2004

Dear Mr. Piszkin:

EPA has reviewed the above-reference workplan which addresses sampling at the ephemeral pond at IRP site 1 to determine whether activities at the range may have adversely impacted the pond and therefore the Riverside fairy shrimp found in the pond. We have consulted with both US Fish and Wildlife Service as well as CA Fish and Game. Letters from the other two agencies should contain comments similar to the attached comments.

We look forward to discussing this at the May 26 meeting and hope that fieldwork may commence shortly thereafter. Please call me if you have questions.

Sincerely,

A handwritten signature in cursive script that reads "Nicole Moutoux".

Nicole Moutoux
Project Manager
Federal Facilities Cleanup Branch

cc: Regina Donohoe, CA Fish and Game
Judy Gibson, US Fish and Wildlife Service
Sonce DeVries, EPA
Tayseer Mahmoud, DTSC
Marcia Rudolph, RAB Subcommittee Chair
Bob Woodings, RAB Co-Chair

EPA Comments on Draft Final Sampling and Analysis Plan
IRP Site 1, EOD Pond
dated March, 2004

1. Section 3, Rationale for the Amendment, Page 3-2: It appears that use of reporting limits for organics is acceptable, however, the Navy should provide a table which shows that the reporting limits are comparable to sediment toxicity benchmarks for benthic invertebrates (Talmage et al., 1999, MacDonald et al, 2000, Lotufo et al. 2001).
2. Section 4.2, Decision Statement, Page 4-1: Use of background as screening numbers for metals is acceptable only if background values do not exceed literature-derived toxicity reference values (ie, MacDonald, et al, 2000). It appears that most background numbers would be protective, with the possible exception of Mercury and Cadmium. As recommended in comment number 1, please provide a table which makes the comparison of background values to the appropriate sediment invertebrate toxicity benchmarks.
3. Section 4.5, Decision Rule, Page 4-2 : Use of mean concentration is not an acceptable way to screen for potential risk. Maximum concentrations should be used.
4. Section 4.5, Decision Rule, Page 4-2: EPA has concerns about the bioassays proposed for toxicity testing should the samples collected exceed screening values. However, in the interest of moving forward and collecting information as soon as possible, EPA suggests finalizing the approach for toxicity testing after the chemistry has been collected and evaluated. .
5. Sections 4.7 and 5, Study Design and Field Sampling Plan, Pages 4-7 and 5-1: Comparison of bioassay results from the pond to results from a reference site is discussed however, there is no further discussion of where the reference site would be located. Prior to finalization of toxicity testing design, this reference site should be chosen.
6. Section 4.7, Study Design, Page 4.7: Please provide justification for sampling at a depth of 5 feet as this may not be the appropriate depth to obtain ecologically relevant information. Consider instead sampling at a depth of 15-45 cm.



Terry Tamminen
Agency Secretary
Cal/EPA



Department of Toxic Substances Control

Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630



Arnold Schwarzenegger
Governor

March 30, 2004

Mr. F. Andrew Piszkin
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APPROVAL OF CLOSURE REPORT FOR FORMER PESTICIDE STORAGE AREA MSC P1, UNIT 1, FORMER MARINE CORPS AIR STATION (MCAS) EL TORO

Dear Mr. Piszkin:

The Department of Toxic Substances Control (DTSC) has reviewed the subject document dated December 2, 2003. The closure report summarizes the results of verification activities conducted at the Former Pesticides Storage Area, Miscellaneous Sites of Concern (MSC) P1, Unit 1; former Building 1687, at the former MCAS El Toro. MSC P1, Unit 2 near former Building 493 will be addressed in a separate report.

60 soil confirmation samples collected from thirteen locations at MSC P1, Unit 1 were collected on May 24, 1999, June 3, 1999, and September 21, 2000. The samples were analyzed for semi-volatile organic compounds, pesticides, and herbicides.

The former pesticide storage area MSC P1 was identified in the 1995 Final Environmental Baseline Survey (EBS) for MCAS El Toro. The EBS indicated that Building 1687 was in use from 1959 to 1987, when the building was demolished. MSC P1, Unit 1 area is approximately 80 feet by 80 feet. The unit is located in the southeastern quadrant of the MCAS El Toro.

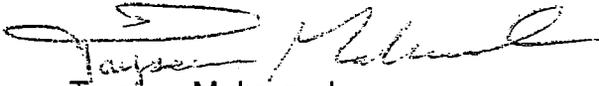
Based on our review, we agree with the Navy's recommended no further action for MSC P1, Unit 1 with Environmental Condition of Property (ECP) category 3. Also, the unit should be identified as "closed" in the next Base Realignment Closure Business Plan update. The net carcinogenic risk is less than 10^{-6} for residential scenario and the non-cancer hazard index for detected chemicals is less than 1.0 for residential scenario.

SENSITIVE

Mr. F. Andrew Piszkin, P.E.
March 30, 2004
Page 2

If you have any questions, please contact me at (714) 484-5419.

Sincerely,



Tayseer Mahmoud
Senior Hazardous Substances Engineer
Office of Military Facilities
Southern California Branch

cc: Ms. Nicole Moutoux
Remedial Project Manager
U. S. Environmental Protection Agency Region IX
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SENSITIVE

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
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March 30, 2004
Page 3

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Terry Tamminen
Agency Secretary
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April 6, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
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7040 Trabuco Road
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APPROVAL OF SUMMARY REPORT FOR TEMPORARY ACCUMULATION AREA (TAA) 462, FORMER MARINE CORPS AIR STATION (MCAS) EL TORO

Dear Mr. Piszkin:

The Department of Toxic Substances Control (DTSC) has reviewed the subject document dated September 12, 2002. TAA 462 was identified as Solid Waste Management Unit (SWMU) 140 during the development of the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) prepared for El Toro. The former temporary drum storage area consists of two concrete pads, and each pad is surrounded by a concrete curb and berm. TAA 462 encompasses an area of approximately 12 feet wide by 24 feet long, located northeast of Building 462 in the southeastern section of MCAS El Toro on an aircraft concrete parking apron.

The report presents the results of historical records review and visual site inspection activities at TAA 462. Based upon available historical information, it is estimated that TAA 462 was used from the late 1980's until July 1999 for storage of 55-gallon drums of waste oil, hydraulic fluid, and antifreeze.

Since TAA 462 is located on a runway tarmac approximately 8 inches thick and the excellent condition of the concrete pads, DTSC concurs with the designation of no further action for TAA 462 in the next Base Realignment Closure Business Plan update.

SENSITIVE RECORD

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AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

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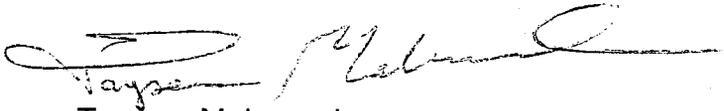
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SENSITIVE

Mr. F. Andrew Piszkin, P.E.
April 6, 2004
Page 2

If you have any questions, please contact me at (714) 484-5419.

Sincerely,



Tayseer Mahmoud
Senior Hazardous Substances Engineer
Office of Military Facilities
Southern California Branch

cc: Ms. Nicole Moutoux
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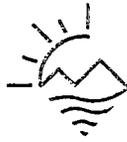
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April 6, 2004
Page 3

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Department of Toxic Substances Control



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April 7, 2004

Mr. F. Andrew Piszkin
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APPROVAL OF CLOSURE REPORT FOR TEMPORARY ACCUMULATION AREA (TAA) 744, FORMER MARINE CORPS AIR STATION (MCAS) EL TORO

Dear Mr. Piszkin:

The Department of Toxic Substances Control (DTSC) has reviewed the subject document dated November 17, 2003. The report documents the confirmation soil sampling activities performed at the former TAA 744 on August 26, 2003. The report also summarizes the results of 8 soil confirmation samples collected from four locations at TAA 744. The samples were analyzed for volatile organic compounds (VOCs), Semi-VOCs, total petroleum (TPH) as gasoline, TPH as diesel, pesticides, metals, and pH.

TAA 744 was identified as part of the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) Addendum performed by Bechtel National Inc. for MCAS El Toro. The unit may have been used for the storage of hazardous waste drums containing solvents, hydraulic fluid, waste oil, absorbent material, and oily rags. TAA 744 is described as 12-feet by 20-feet concrete storage pad with berm, and ramp divided into two sections by a berm with a sump on both sides of the berm located north of Building 744 in the northwestern quadrant of the MCAS El Toro.

Based on our review, DTSC agrees with the Navy's recommendation that this unit should be identified as "closed" and suitable for residential uses in the next Base Realignment Closure Business Plan update.

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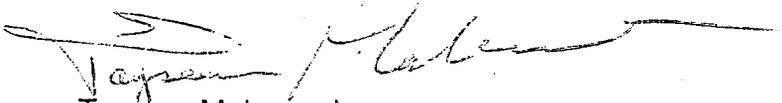
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Mr. F. Andrew Piszkin, P.E.
April 7, 2004
Page 2

If you have any questions, please contact me at (714) 484-5419.

Sincerely,



Tayseer Mahmoud
Senior Hazardous Substances Engineer
Office of Military Facilities
Southern California Branch

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April 7, 2004
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Terry Tamminen
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Cal/EPA

May 14, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
Marine Corps Air Station El Toro
7040 Trabuco Road
Irvine, California 92618

COMMENTS ON SITE ASSESSMENT REPORT FOR IRP SITE 16, CRASH CREW PIT NUMBER 2, FORMER MARINE CORPS AIR STATION EL TORO

Dear Mr. Piszkin:

The Department of Toxic Substances has reviewed the subject document dated March 30, 2004, prepared by Shaw Environmental, Inc. The report describes investigation including soil borings, soil matrix sampling and analysis, and vadose zone modeling at IRP Site 16, Crash Crew Pit Number 2. A total of 79 soil samples were analyzed for total petroleum as gasoline (TPH-g), TPH as diesel (TPH-d), and volatile organic compounds (VOCs). TPH-g and TPH-d contamination was documented to about 110 feet below ground surface (bgs) in 2 borings. Also, VOCs were detected in soils below and in the vicinity of the former main pit extended at 130 feet bgs. The depth to groundwater in the vicinity of Site 16 is estimated to be approximately 160 bgs. The report recommends soil vapor extraction (SVE) to remove the TPH contaminant mass in the soil and further reduce impacts to groundwater. In addition, the report recommends additional testing to be conducted in order to determine radius of influence and other design parameters before construction is implemented. The contract for cleanup of the soil is planned for award before the end of FY 04.

DTSC concurs with the proposed SVE remedy for the site; however, the SVE should not be limited to the contaminant mass between 20 and 100 feet bgs. Please note that TCE has transited the entire vadose zone, reaching groundwater. The soils between 110 and 160 feet bgs almost certainly contain residual TCE and should also be subject to SVE remediation. This will help protect groundwater from further degradation, and will probably greatly enhance the monitored natural attenuation groundwater remedy

Mr. F. Andrew Piszkin, P.E.
May 14, 2004
Page 2

proposed for the site. For additional comments on the document, please see the enclosed comments prepared by Mr. Dave Murchison, from our Geological Services Unit.

If you have any questions, please contact me at (714) 484-5419.

Sincerely,



Tayseer Mahmoud
Senior Hazardous Substances Engineer
Office of Military Facilities
Southern California Branch

Enclosure

cc: Ms. Nicole Moutoux
Remedial Project Manager
U. S. Environmental Protection Agency Region IX
Superfund Division (SFD-8-1)
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SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

ADDRESS OF PRIVATE CITIZEN

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Mr. F. Andrew Piszkin, P.E.
May 14, 2004
Page 3

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Department of Toxic Substances Control

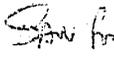
Edwin F. Lowry, Director
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Cypress, California 90630



Arnold Schwarzenegger
Governor

MEMORANDUM

TO: Tayseer Mahmoud
Project Manager
Office of Military Facilities

FROM: Dave Murchison, R.G. 
Engineering Geologist
Cypress Geological Services Unit

CONCUR: Scott Warren, C. E. G., C. Hg. 
Senior Engineering Geologist
Cypress Geological Services Unit

DATE: May 14, 2004

SUBJECT: Draft Geologic/Hydrogeologic Review of
Site Assessment Report, IRP Site 16,
Former Marine Corps Air Station
El Toro, California, by Shaw Environmental Inc.,
Dated 31 March, 2004

PCA: 18040 Site Code: 400055-18 Request No. 20037192

As requested, Site Mitigation and Brownfields Reuse Program, Geological Services Unit (GSU) staff performed a review of the *Site Assessment Report, IRP Site 16, Former Marine Corps Air Station El Toro, California*, dated 30 March 2004 by Shaw Environmental, Inc. (Report), described above. The Report describes the investigation including soil borings, soil matrix sampling and analysis, and vadose zone modeling at IRP Site 16, at the former Marine Corps Air Station (MCAS) El Toro.

The Report was reviewed for internal consistency and for conformance with DTSC and US EPA guidance for remedial investigation and vadose zone evaluation. Specific comments regarding details of the Report follow. Questions regarding the memorandum should be directed to Dave Murchison at (714) 484-5484.

Introduction

IRP Site 16 is located near the center of the former airfield at MCAS El Toro (Base), and was known as Crash Crew Training Pit No. 2 while in service. The facility included three unlined pits known as the main pit, residual fluids pit, and hand-held extinguisher pit. The main pit remains open at the site, and is roughly 170 feet in diameter and 3 feet deep. The site was in use from about 1972 to 1985 as a training area for firefighters. The main pit was reportedly filled with water, and covered with flammable liquids such as mixtures of residual fuels including jet fuel, gasoline, crankcase oil and other waste. The fuel was then ignited and extinguished by firefighters. Excess water passed through a buried pipe to the residual fluids pit. The area was also drained by a swale that led to a nearby storm drain inlet near the intersection of El Toro Boulevard and Runway 21. The storm drain reportedly discharges into Bee Canyon Wash.

The site geology is dominated by alluvium derived from the Santa Ana Mountains. Groundwater occurs at about 160 feet below ground surface in relatively fine-grained soils, and flows to the northwest.

Previous investigations have documented the presence of petroleum hydrocarbons and volatile organic compounds (VOCs) in soil at the site. A VOC plume has been documented in groundwater. The main VOC of concern is trichloroethene (TCE), although chloroform, 1,2-dichloroethane (DCA), and methylene chloride have also been detected. Tertiary butyl alcohol (TBA) has been detected in soil at the site.

Current Investigation

The Report describes the following activities:

1. Background research, site reconnaissance, and other preparations.
2. Drilling and sampling of 18 hollow stem auger borings including 12 shallow and 6 deeper borings. Soil matrix samples were collected at 5 and 10 feet below ground surface (bgs) in the shallow borings, and at 10-foot vertical intervals from 20 feet bgs to total depth in the deep borings. The deepest soil matrix samples were taken at 140 feet bgs.
3. Soil matrix samples were analyzed for total purgeable petroleum hydrocarbons as gasoline (TPH-g) and total extractable petroleum hydrocarbons as Diesel (TPH-d) by the California LUFT method (US EPA Method 8015 modified). In addition, most soil samples were also analyzed for VOCs by EPA Method 8260b. Some samples were analyzed for total organic carbon by the Walkley-Black method, and geotechnical parameters.
4. The boring locations were surveyed by a registered land surveyor.
5. Vadose zone modeling was performed using the VLEACH computational model.

Findings

Geology of the site is characterized by laterally discontinuous sands, silts, and scattered clay layers. The individual units are typically thin, less than 10 feet thick, and on cursory inspection the units do not appear to correlate between borings.

TPH-g and TPH-d contamination was documented to about 110 feet bgs in 2 borings. Concentrations of TPH-d range up to 40,000 mg/kg, with the highest concentrations in the top 60 feet of the soil column. TPH-d was found at 4,800 mg/kg in soils at 110 feet bgs, and non-detect in samples taken at 120 to 140 feet bgs, the maximum depth of investigation. TPH-g was detected in a similar volume of soil, with maximum concentrations of about 8,300 mg/kg, and 5,100 mg/kg at 110 feet bgs. TPH-g was not detected in the samples taken deeper than 110 feet bgs.

TCE was detected in soils below and in the vicinity of the former main pit. The maximum concentration was reportedly 2,700 µg/kg and detectable TCE extended to 130 feet bgs in boring CB-11, where 22 µg/kg was detected in a soil matrix sample. For comparison, the residential PRG for TCE is 53 µg/kg, and the industrial PRG is 110 µg/kg (US EPA Region IX, 2002; <http://www.epa.gov/region09/waste/sfund/prg/files/02table.pdf>).

Other VOCs that extend to considerable depth at the site include various isomers of trimethylbenzene, benzene, ethylbenzene, toluene, xylenes, tertiary butyl alcohol, acetone, 2-butanone, 2-hexanone, 4-methyl-2-pentanone, isopropylbenzene, n- and sec- butylbenzene, n-propylbenzene, naphthalene, and p-isopropyltoluene. None of these was reported at concentrations greater than residential PRGs.

The Report includes vadose zone modeling using the VLEACH computational model. Since the VLEACH model is designed for single chemicals, rather than complex mixtures like TPH, the model was run for ten surrogate compounds known to be associated with, or components of, TPH. The

General Comments

1. GSU has some concern that the amount of data available to the Contractor was sufficient to run a valid VLEACH model. The data does not rule out TPH or VOC contamination in soil extending all the way to groundwater, since the number of deep borings is limited. VOC contamination has reached groundwater, and so the modeling is of limited value in planning remediation. In addition, the VLEACH model is based on a precipitation-driven infiltration model, which may not be well suited to the dry Mediterranean climate of El Toro. Since the conclusions and recommendations of the Report indicate further action will be taken with respect to soil, GSU regards this comment as informational, and does not request changes to the Report on this basis.
2. GSU concurs that soil vapor extraction (SVE) is probably a suitable remedial alternative for this site.

3. GSU does not concur that SVE should be limited to the contaminant mass between 20 and 100 feet bgs. GSU notes that TCE has transited the entire vadose zone, reaching groundwater. The soils between 110 and 160 feet bgs almost certainly contain residual TCE and should also be subject to SVE remediation. This will help protect groundwater from further degradation, and will probably greatly enhance the monitored natural attenuation groundwater remedy proposed in other submittals.

Specific Comment

4. Figures 6 and 7, Cross sections A-A' and B-B'. There is an apparent error in the depth scales on these figures. The deepest depth should probably be 140' rather than 40'.



Department of Toxic Substances Control

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Arnold Schwarzenegger
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Terry Tamminen
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May 17, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
Marine Corps Air Station El Toro
7040 Trabuco Road
Irvine, California 92618

DRAFT FINAL TECHNICAL MEMORANDUM SUMMARY REPORT FOR APHO 46 AND MSC R2, FORMER MARINE CORPS AIR STATION (MCAS) EL TORO

Dear Mr. Piszkin:

The Department of Toxic Substances Control (DTSC) has reviewed the subject document dated December 2003, prepared by Naval Facilities Engineering Command. The report presents the results of an investigation of Aerial Photographic Anomaly (APHO) 46 and possible landfill area designated as Miscellaneous Refuse Area 2 (MSC R2) at the former MCAS El Toro. APHO 46 was identified on an aerial photograph dated February 4, 1979 and described as a large impoundment and fill area adjacent to Landfill Site 5. MSC R2 was identified as a possible refuse area at the southwestern end of Site 5 based on personnel interviews conducted as a part of the 1995 Environmental Baseline Survey.

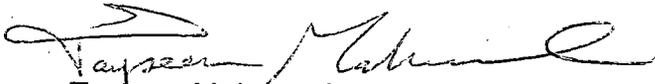
The Department of Navy (DON) conducted a geophysical survey and a visual site inspection at APHO 46 and MSC R2. The field data collected at MSC R2 during the geophysical survey indicated that there is no evidence of waste placement or landfill activities at MSC R2. In August 2002, eleven soil borings were collected from six locations within APHO 46 and analyzed for volatile organic compounds (VOCs), Semi-VOCs, total petroleum (TPH) as gasoline, TPH as diesel and motor oil, organochlorine pesticides, polychlorinated biphenyls (PCBs), chlorinated herbicides, metals, and dioxins. Also, in response to regulatory agencies request, the DON collected additional seven soil samples from four locations at APHO 46 and analyzed for dioxins in September 2003.

Mr. F. Andrew Piszkin, P.E.
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Based on our review of the report, DTSC concurs with DON's recommendation for no further investigation at APHO 46 and MSC R2.

If you have any questions, please contact me at (714) 484-5419.

Sincerely,



Tayseer Mahmoud
Senior Hazardous Substances Engineer
Office of Military Facilities
Southern California Branch

cc: Ms. Nicole Moutoux
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SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE
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ADDRESS OF PRIVATE CITIZEN

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bcc: Manny Alonzo, Unit Chief
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Frank Cheng
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May 21, 2004

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COMMENTS ON PROPOSED SAMPLING STRATEGY FOR THE TEMPORARY ACCUMULATION AREA (TAA) SITE 7, FORMER MARINE CORPS AIR STATION (MCAS) EL TORO

Dear Mr. Piszkin:

The Department of Toxic Substances Control (DTSC) has reviewed the subject document dated May 6, 2004, prepared by Naval Facilities Engineering Command. The proposed sampling strategy was submitted in response to DTSC's March 11, 2003, comments on the September 2002 Addendum Supplementary Report where samples were analyzed using immunoassay field kits and x-ray fluorescence (XRF). The Department of Navy (DON) proposes to take additional 6 soil samples at 3 locations: TAA7A1a, TAA7A2a, and TAA7A3a. The samples will be collected at depths of 18 and 36 inches below ground surface (bgs) and analyzed for volatile organic compounds (VOCs) and metals.

TAA 7 is approximately 10 feet wide by 20 feet long located on the parking apron north-northeast of Building 7 in the northwestern section of El Toro. The site was identified as a paint storage area during visual inspections conducted in 1994 and 1995 where several paint lockers were observed to be in use. Also, several cracks and paint stains were observed on the concrete pavement during the inspections. The visual inspections conducted on October 1 and 23, 2001, found the paint lockers had been removed and a Summary Report was submitted to DTSC in November 2001. TAA 7 was also identified as Solid Waste Management Unit (SWMU) 309 in the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) prepared for MCAS El Toro.

Mr. F. Andrew Piszkin
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DTSC concurs with the DON's proposed additional sampling at TAA 7 and recommends additional sampling at 7 – 10 feet bgs to be analyzed for VOCs at each location. Depending of the lithology of the soil, the additional samples may be taken at the interface above a fine grained layer if encountered at the site.

If you have any question, please call me at (714) 484-5419.

Sincerely,



Taysseer Mahmoud
Senior Hazardous Substances Engineer
Office of Military Facilities
Southern California Branch

cc: Ms. Nicole Moutoux
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May 24, 2004

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COMMENTS ON DRAFT FINAL SAMPLING AND ANALYSIS PLAN, AMENDMENT NO. 1, PHASE II REMEDIAL INVESTIGATION IRP SITE 1, FORMER MARINE CORPS AIR STATION EL TORO

Dear Mr. Piszkin:

The Department of Toxic Substances Control and California Department of Fish and Game (DFG) have reviewed the subject document dated March 2004. This letter is to transmit the enclosed comments prepared by Ms. Regina Donohoe of the California DFG. If you have any questions, please contact me at (714) 484-5419.

Sincerely,

Tayseer Mahmoud
Senior Hazardous Substances Engineer
Office of Military Facilities
Southern California Branch

Enclosure

cc: Ms. Nicole Moutoux
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May 24, 2004
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Memorandum

To: Mr. Tayseer Mahmoud
Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Date: May 13, 2004

From: Regina Donohoe, Ph.D.
California Department of Fish and Game
Office of Spill Prevention and Response
Resource Assessment Program
20 Lower Ragsdale Dr., Suite 100
Monterey, CA 93940



Subject: Draft Final Sampling and Analysis Plan, Amendment No. 1, Phase II Remedial Investigation IRP Site 1, Former Marine Corps Air Station, El Toro, California

Introduction

The California Department of Fish and Game, Office of Spill Prevention and Response (DFG-OSPR) received the "Draft Final Sampling and Analysis Plan, Amendment No. 1, Phase II Remedial Investigation IRP Site 1, Former Marine Corps Air Station (MCAS), El Toro, California, dated March 2004" on March 16, 2004. The Report was prepared for the Department of the Navy (DoN) by Earth Tech, Inc. The comments that follow are provided as part of our role as a natural resource trustee for the State of California.

Background

Installation Restoration Program (IRP) Site 1 covers approximately 74 acres and is located in the northeast portion of the former MCAS, El Toro in Orange County, California. The site, located within a tributary canyon of Borrego Canyon Wash, was utilized as an explosive ordnance disposal area from 1952 to 1999. The subject document is an amendment to the Final Work Plan, Phase II Remedial Investigation (RI) for IRP Site 1 and proposes additional investigation of a bermed retention pond in the northern portion of the site. Seasonal accumulation of rainwater has been observed in the retention pond, but not since 1999. A 1996 dry and wet season sampling in the pond identified the presence of the Riverside fairy shrimp (*Streptocephalus woottoni*), federally listed as an endangered species. Accordingly, the document proposes to analyze soil samples within the pond for contaminants of potential ecological concern (COPECs). If COPEC concentrations are above background soil concentrations for inorganics or above reporting limits for organics, a *Ceriodaphnia dubia* bioassay would be conducted in order to determine if there are potential risks to the fairy shrimp.

Comments

1. DFG-OSPR would prefer that water samples be collected to evaluate impacts to the fairy shrimp. Given the lack of available water in the pond, we concur that soil sampling is the most feasible surrogate at this point in time. However, DFG-OSPR encourages the DoN to continually monitor for the presence of water in the retention pond and to collect water samples if the opportunity arises. Chemical analyses and toxicity testing should be performed on these water samples to more fully evaluate the risks to the fairy shrimp.
2. In order to determine if reporting limits for organics are protective thresholds for the fairy shrimp, they should be compared to toxicity benchmarks. This is difficult because no soil-based toxicity benchmarks are available for the fairy shrimp (i.e., water concentrations are normally used). As an alternative, reporting limits could be compared to sediment toxicity benchmarks for benthic invertebrates (e.g., Talmadge et al., 1999; MacDonald et al., 2000; Lotufo et al., 2001). It is recommended that this type of analysis be included in the document to justify the decision thresholds. However, it appears that the listed reported limits for organics are below available sediment invertebrate toxicity benchmarks.
3. DFG-OSPR has concerns about the feasibility/applicability of conducting the proposed *C. dubia* bioassays (7 day reproduction test) with rehydrated soil (i.e., 1:4 ratio of soil to water) from the retention pond. However, in the interest of expediting chemical sampling, DFG-OSPR proposes that the experimental design for the bioassay be finalized after the chemical analyses are complete and the need for toxicity testing is identified. At that point in time, we can address whether the 1:4 soil to water ratio is reflective of the conditions that might be expected to occur at Site 1 when the pond contains water (i.e., does this ratio reflect a worst case scenario?). A second concern that would need to be addressed is the ion tolerance of *C. dubia*. Given that evaporation has occurred in the pond, there may be elevated concentrations of inorganic ions that might impair reproduction in *C. dubia*. Researchers have found that water conductivity greater than 2000 uS/cm can adversely affect *C. dubia* reproduction (personal communication, Victor deVlaming, University of California at Davis, Aquatic Toxicology Laboratory, April 22, 2004; Goodfellow et al., 2000; Mount et al., 1997). Therefore, it may be prudent to collect a preliminary soil sample, hydrate it as directed by the method, and evaluate conductivity levels. If bioassays are feasible and toxicity is observed, a toxicity identification evaluation procedure (e.g., U.S. EPA, 1993) may be utilized to evaluate the type of contaminants (i.e., major ions or nitroaromatics) that may be causing adverse effects. If bioassays with *C. dubia* are not feasible, an alternative bioassay will have to be selected.
4. Utilizing the mean concentration of an analyte is not a protective decision rule (page 4-2), especially if the data is not normally distributed. It is recommended that a maximum concentration be utilized as the decision rule. Examination of the data distribution will assist in identifying the type of further investigation that may be required.

Mr. Tayseer Mahmoud
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5. It is assumed that soil concentrations will be reported on a dry weight basis. Please clarify this in the report.
6. Potential comparison of bioassay results from the retention pond soil to results from a reference sediment is mentioned (pages 4-7 and 5-1). However, there is no discussion of where this reference sediment would be collected. The location and rationale for reference site selection needs to be provided. However, reference site selection may be discussed during the finalization of the toxicity testing design (see comment 3).
7. On page 4-7, please clarify why a depth of 5 feet below ground surface (bgs) was selected for sampling. Unless this is the depth of the geophysical anomaly, it is recommended that a more biologically relevant depth be selected.
8. If bioassay samples are collected, split samples should be taken for analytical chemistry so that toxicity test results can be correlated to analyte levels in the soil. Soil samples should not be composited for toxicity testing.

Conclusions

DFG-OSPR requests that the document be revised based on the comments provided herein. If you have any questions or require further details, please contact Regina Donohoe by phone at (831) 649-7150 or e-mail (rdonohoe@ospr.dfg.ca.gov).

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Staff Environmental Scientist
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Office of Spill Prevention and Response

cc: Julie Yamamoto, Ph.D.
Senior Toxicologist
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References:

Goodfellow, W.L., L.W. Ausley, D.T. Burton, D.L. Denton, P.B. Dorn, D.R. Grothe, M.A. Heber, T. J. Norberg-King and J.H. Rodgers, Jr. Major ion toxicity in effluents: a review with permitting recommendations. *Environ. Toxicol. Chemistry* 19:175-182.

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Naval Facilities Engineering Command
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DATE: June 30, 2004

CTO #: 0060

LOCATION: MCAS El Toro

FROM: Thurman L. Heironimus, Project Manager

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