



# UPDATE ON ENVIRONMENTAL RESTORATION PROGRAM AT MARINE CORPS AIR STATION EL TORO

Fact Sheet No. 4

October 1995

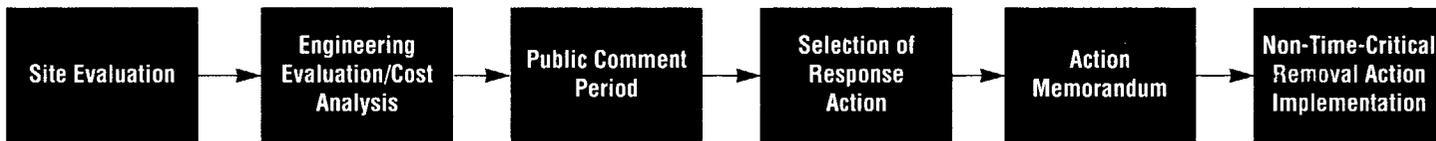
## Fast-Track Cleanup Planned for Seven Sites at MCAS El Toro

The Marine Corps/Navy has proposed environmental cleanup actions at seven Installation Restoration Program sites at MCAS El Toro using the fast-track removal action process (see figure below). Based on information from site evaluations and environmental investigations conducted at the base, the proposed cleanup (removal) actions call for excavation and treatment of contaminated soil. Contaminants in the soil consist of waste oil, used solvents, fuel hydrocarbons, lead, and polychlorinated biphenyls (PCBs). These

the U.S. Environmental Protection Agency (EPA) and the State of California (Department of Toxic Substances Control) to be protective of human health.

During the evaluation of cleanup alternatives, factors such as short- and long-term effectiveness of treatment methods, ease of implementation, and cost were considered. In addition, early versions of the draft EE/CA documents were reviewed by the U.S. EPA, the State of California, and the local community-based Restoration Advisory Board. Comments on

### Fast-Track Removal Action Process



contaminants are confined to surface and shallow soil and pose no threat to the groundwater. Removal actions at these seven sites are necessary in order to reduce potential risks to human health and the environment and the migration, or movement, of contamination. The proposed treatment technologies and cleanup methods have proved effective for similar contaminants at other naval installations and numerous gas station sites in Southern California. The cleanup actions are evaluated in seven Engineering Evaluation/Cost Analysis (EE/CA) documents that are now available for public review and comment (see box below).

Each fast-track removal action requires the preparation of an EE/CA document that identifies removal action objectives and evaluates cleanup alternatives. Each document includes a site description that summarizes the types, sources, and locations of contaminants present at each site. In addition, investigation results have been used to identify the contaminants of concern, estimate how and to what extent people might be exposed to these contaminants, and assess the potential health effects associated with them. A streamlined evaluation that focuses on the specific contamination at each site was used to determine potential risk to human health if no cleanup action is taken. Removal actions are warranted since one or more contaminants in the soil at each of the seven sites clearly exceed levels considered by

the draft documents were considered in developing the EE/CAs that are now available for public review and comment.

After the 30-day document review and comment period (October 11 to November 9, 1995), the Marine Corps/Navy will consider public comments in the final selection of a removal action for each site. To document responses to public comments and the final removal action chosen, Action Memorandums will be prepared. Then the cleanup will begin.

**Public Involvement Opportunity**  
**Engineering Evaluation/Cost Analysis (EE/CA)**  
**Comment Period: October 11 – November 9, 1995**

The EE/CA documents are now available for public review at the  
**Heritage Park Regional Library**  
 14301 Yale Avenue  
 Irvine, California 92714  
 (714) 551-7151

Monday – Thursday, 10 am – 9 pm  
 Friday and Saturday, 10 am – 5 pm

Please submit comments to Mr. Joseph Joyce as listed on the back page of this fact sheet.

# Site Summaries – Engineering Evaluation/Cost Analyses Results

## Site Descriptions/Sources of Contamination

**Site 4: Former Ferrocene Spill Area** – is located southeast of Building 658. Sources of contaminated soil are from past spills and washing of tanks that overflowed onto the ground. Rinse water containing ferrocene flowed into a drainage ditch that discharges to Agua Chion Wash.

**Site 7: Former Drop Tank Drainage Area No. 2** – is located north and east of Hangar Buildings 295 and 296 and consists of five areas of contamination. The main source of contamination is at the edge of the pavement north of Building 295 which received runoff from spills and the draining of residual fuels and lubrication oils.

**Site 11: Former Transformer Storage Area** – is located on the northeast side of Building 369 and consists of two areas of contamination. Sources of contamination are from past spills and leaks from electrical transformers that were stored on a concrete pad. Transformer oil containing PCBs are suspected to have flowed from the pad into an adjacent drainage ditch and surrounding soils.

**Site 13: Former Oil Change Area** – is located to the east and northeast of Building 242 and consists of two areas of contamination. Sources of contamination are from past vehicle maintenance, specifically, the draining of crankcase oil from heavy equipment onto the ground. Carbon tetrachloride, an industrial solvent, may have been disposed of at Site 13.

**Site 14: Former Battery Acid Disposal Area** – is located southwest of Building 245. Sources of contamination are a sloped dirt area along the edge of the pavement and a drainage ditch beyond the sloped area, both of which were used as a disposal area for the heavy equipment maintenance shop formerly housed in Building 245. Vehicle batteries were drained onto the ground along with paints, solvents, and waste oil.

**Site 19: Aircraft Expeditionary Refueling Site** – is located southwest of Buildings 404 and 414 and was formerly used as a jet refueling area. It consists of three areas of contamination. An estimated 15,000 gallons of jet fuel spilled from a ruptured storage facility in 1986. Contaminated soil was excavated from this area creating a large pit. Source of present-day contamination is PCB-contaminated soil removed from Site 8 that is stored temporarily in the pit.

**Site 20: Hobby Shop** – is located in and around Building 626. The site consists of four areas of contamination. The Hobby Shop facility is used by military personnel to service their privately owned vehicles and includes a used oil underground storage tank, oil/water separators, and parts cleaning solvent drums. Sources of contamination are waste oil and lead present in the soil from vehicle maintenance activities.

## Contamination Areas Targeted in EE/CA

Contaminated surface and shallow soil is present in an area of approximately 30-by-90 feet. Investigations indicate fuel-related compounds are present in soil. If disturbed, the soil containing petroleum hydrocarbons may pose a health risk to people that work at or near the site. Estimated volume of soil for treatment is 115 cubic yards.

Contaminated surface and shallow soil is in an area of approximately 30- by 700-feet. The estimated volume of contaminated soil is 2,780 cubic yards. Investigations indicate that contamination consists of petroleum hydrocarbons and polynuclear aromatic hydrocarbons (PAHs). These contaminants may pose a health risk to people working at or near the site if the soil is disturbed.

Contaminated surface and shallow soil is present in two areas. The first is a 10- by 60-foot area at the perimeter of the concrete pad. The second area is a 10- by 150-foot asphalt-lined drainage ditch that runs from the pad to a storage yard. Approximately 207 cubic yards of PCB-contaminated soil is present, and these soils may pose a health risk to people working at or near the site, if disturbed.

Contaminated surface and shallow soil is present in two areas. The first area measures approximately 100- by 170-feet, while the second is 60- by 230-foot. There are approximately 2,000 cubic yards of soil within these two areas. The soil, if disturbed, may pose a health risk to people working at or near the site.

Contaminated surface and shallow soil is present in an area approximately 30- by 150-feet. Approximately 645 cubic yards of soil contaminated with PAHs and petroleum hydrocarbons is present. The contaminants may pose a health risk to people working at or near the site, should the soil be disturbed.

Contaminated surface and shallow soil is present in an area 300 feet long, 60 feet wide, and 2 feet deep. This includes a 30- by 30-foot pit excavated to a depth of 15 feet that was filled with approximately 460 cubic yards of PCB-contaminated soil. This soil may pose a health risk to people working at or near the site if disturbed. PCB-contaminated soil and soil from the sides and floor of the pit will be analyzed during removal activities to determine if any fuel-related contaminants remain.

Contaminated surface and shallow soil is present at two areas. Site 20. The first area consists of a drainage ditch approximately 10- by 180-feet. The second area is approximately 35- by 45-feet on the northwest side of the building near a used oil underground storage tank. Approximately 190 cubic yards of soil are contaminated with petroleum hydrocarbons and lead. These contaminants may pose a health risk to people working at or near the site, if soil is disturbed.

# and Recommendations

## Alternatives Evaluated/Recommended Actions

- on-site low-temperature thermal desorption (**recommended action**)
- off-site low-temperature thermal desorption
- on-site bioremediation
- no further action

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- no further action

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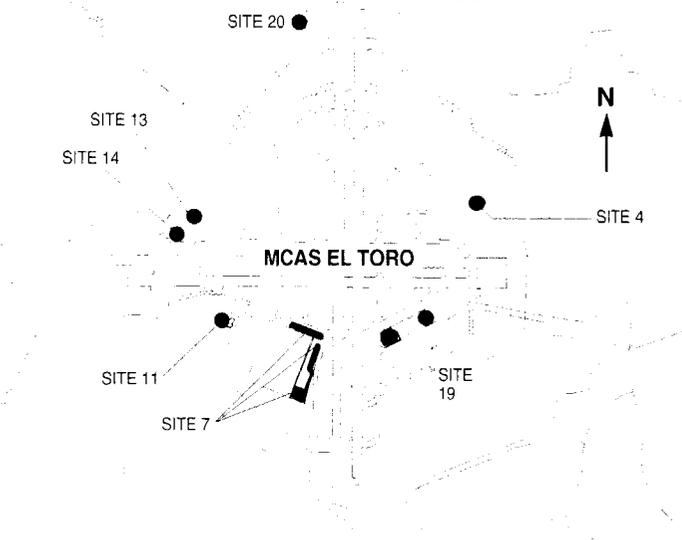
For hydrocarbon-contaminated soil:

- on-site low-temperature thermal desorption (**recommended action**)
- off-site low-temperature thermal desorption
- on-site bioremediation
- no further action

For lead-contaminated soil:

- solidification/stabilization followed by off-site landfill disposal (**recommended action**)
- no further action

## MCAS El Toro Removal Action Sites



## Descriptions of Cleanup Alternatives

**ON-SITE LOW-TEMPERATURE THERMAL DESORPTION** – a proven technology used throughout California for treating soil contaminated with hydrocarbon-based wastes. It ranks high in effectiveness and is a competitive option with respect to cost, ease of implementation, and environmental impact. Contaminated soil is excavated, placed into the treatment unit and heated, thereby vaporizing the contaminants. Vapors are captured in a self-contained emission control system. Treated soil is disposed of at MCAS El Toro as landfill cover material. On-site treatment at the base will achieve greater cost savings when removal action sites are combined. The estimated time frame to complete on-site low-temperature thermal desorption is approximately two months after the cleanup contractor receives the Navy's authorization to proceed.

**OFF-SITE LOW-TEMPERATURE THERMAL DESORPTION** – applies the same process as the on-site method, except contaminated soil is transported for treatment and disposal at an approved facility off-site, away from the base.

**ON-SITE BIOREMEDIATION** – uses microorganisms to transform soil contaminants to nonhazardous end products. It involves excavation and treatment of soil at a specially constructed on-site bioremediation "cell." Microorganisms, added to the contaminated soil along with water, oxygen and nutrients, multiply and feed on the nutrients and the hydrocarbon compounds. Treated soil is disposed of at MCAS El Toro as landfill cover material. This treatment method is not as effective as low-temperature thermal desorption in destroying hydrocarbon-based contaminants because the time required for treatment is uncertain and other substances in the soil could impede the microorganisms from cleaning up the soil.

**SOIL SOLIDIFICATION/STABILIZATION** – involves mixing contaminated soil with binding materials to solidify the soil so contaminants are fixed in place.

**OFF-SITE LANDFILL DISPOSAL** – involves excavation of contaminated soil and off-site disposal at a landfill approved to receive and dispose of this material.

**NO FURTHER ACTION** – no additional investigations or cleanup actions are needed. Federal regulations require consideration of this alternative as a basis against which other alternatives can be compared.

## MAILING LIST COUPON

If you would like to be on the mailing list to receive information about environmental restoration activities at MCAS El Toro, please fill out the coupon below and mail it to Mr. Joseph Joyce, BRAC Environmental Coordinator, AC/S, Environmental (IAU), MCAS El Toro, P.O. Box 95001, Santa Ana, CA 92709-5001.

- Add me to the MCAS El Toro Installation Restoration Program mailing list.
- Add me to the MCAS El Toro Restoration Advisory Board mailing list so that I can receive board meeting notices, agendas, and minutes.
- Send me information on Restoration Advisory Board membership.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

Affiliation (optional) \_\_\_\_\_

Telephone \_\_\_\_\_

## Where to Get More Information

Copies of documents and correspondence relating to environmental cleanup activities at MCAS El Toro are available for public review at the information repository listed below:

### Heritage Park Regional Library

14361 Yale Avenue

Irvine, CA 92714

(714) 551-7151

If you have questions regarding the environmental program at MCAS El Toro or would like additional information, please contact:

#### Mr. Joseph Joyce

BRAC Environmental Coordinator

AC/S, Environmental (IAU)

MCAS El Toro

P.O. Box 95001

Santa Ana, CA 92709-5001

(714) 726-3470

#### Mr. Fraser Felter

Community Relations Coordinator

U.S. EPA

75 Hawthorne St. (H-1-1)

San Francisco, CA 94105

(800) 231-3075

#### Captain Brad Bartelt

BRAC Public Affairs Officer

Marine Corps Air Bases, Western Area

MCAS El Toro

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(714) 726-3853

Commanding General

Attn: Mr. Joseph Joyce

BRAC Environmental Coordinator

AC/S, Environmental (IAU)

MCAS El Toro

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