



Second Five-Year Review Fact Sheet

Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3

Former Marine Corps Air Station El Toro Irvine, California



February 2015

INTRODUCTION

The Department of the Navy (DON) has completed the second five-year review of environmental restoration actions (“remedies”) at the following eight *Installation Restoration Program (IRP)* sites located at Former Marine Corps Air Station (MCAS) El Toro, California (also referred to as the “Station”):

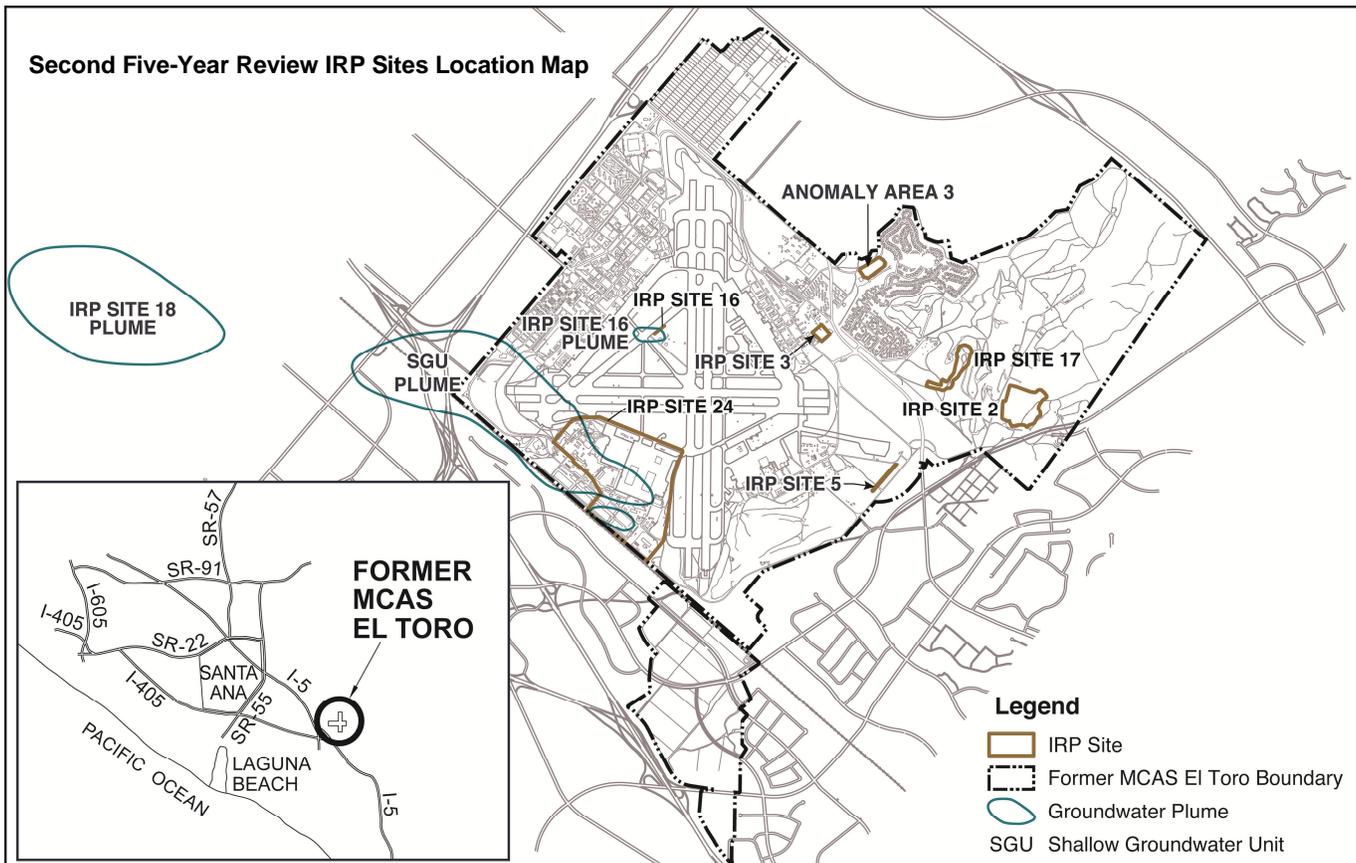
- Site 2 (Magazine Road Landfill);
- Site 3 (Original Landfill);
- Site 5 (Perimeter Road Landfill);
- Site 16 (Crash Crew Training Pit Number [No.] 2);
- Site 17 (Communication Station Landfill);
- Site 18 (Regional *Volatile Organic Compound [VOC]* Groundwater Plume);
- Site 24 (VOC Source Area); and
- Anomaly Area 3 (AA 3) (Refuse Disposal Area).

The first five-year review was completed in September 2009 and this second five-year review was completed in September 2014.

WHAT IS A “FIVE-YEAR REVIEW”?

The *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)* requires periodic reviews of cleanup remedies at sites that have hazardous substances remaining on-site above levels that allow for unrestricted use and unlimited exposure. Five-year reviews provide an opportunity to evaluate the performance of a *remedy* to determine whether it remains protective of human health and the environment. This periodic review begins five years following the initiation of the first remedial action at an installation and is repeated every succeeding five years as long as remedies remain in place and future uses remain restricted.

*Note: *Italics* indicate terms included in the glossary.



This Fact Sheet provides information about the five-year review process, information on sites covered and evaluated, and presents the results and conclusions of the Second Five-Year Review Report.

FORMER MCAS EL TORO BACKGROUND AND ENVIRONMENTAL HISTORY

Former MCAS El Toro was commissioned in 1943 as a Marine Corps pilot fleet operation training facility. It was closed in July 1999 as a part of the *Base Realignment and Closure (BRAC)* Act. In June 1988, the United States Environmental Protection Agency (U.S. EPA) recommended adding Former MCAS El Toro to the National Priorities List (NPL) (commonly referred to as “Superfund” under *CERCLA*) due to VOC-impacted groundwater found at the Station boundary and in agricultural wells west of the Station.

The Navy, on behalf of the Marine Corps, entered into a Federal Facility Agreement (FFA) with U.S. EPA Region 9, the California Department of Toxic Substances Control (DTSC) (formerly California Department of Health Services [DHS]), and the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). The main purpose of the FFA is to ensure environmental impacts are investigated and appropriate response actions are implemented to protect human health and the environment. The implementation of the FFA is included as one of the responsibilities of the *BRAC Cleanup Team (BCT)* which consists of representatives from the DON, U.S. EPA, DTSC, and the RWQCB.

SELECTED REMEDIES

IRP SITES 2 AND 17

IRP Site 2, the Magazine Road Landfill and IRP Site 17, the Communication Station Landfill, served as waste disposal facilities during the operation of MCAS El Toro from the late 1950s until the early- to mid-1980s. As documented in the 2000 *Record of Decision (ROD)*, the

IRP Site 2—Magazine Road Landfill



selected *remedy* for the *vadose zone* soil at both IRP Sites 2 and 17 includes landfill capping and *institutional controls (ICs)*. The *ROD* also documented *no further action (NFA)* for IRP Site 17 groundwater. Construction of the IRP Site 2 groundwater *remedy*, covered in a separate *ROD*, was underway and thus was not a part of the second five-year review. The operation and maintenance (O&M)/long-term monitoring (LTM) of these landfill remedies is ongoing and includes inspections and maintenance of the cover and groundwater, soil moisture, and landfill gas monitoring. The purpose of this monitoring is to demonstrate the effectiveness of the *remedy* and to document that it is performing as designed to protect human health and the environment.

IRP Site 5—Perimeter Road Landfill



IRP SITES 3 AND 5

IRP Site 3, the Original Landfill and IRP Site 5, the Perimeter Road Landfill, operated as cut-and-fill disposal facilities and received wastes from 1943 until 1955, and from approximately 1955 to the late 1960s, respectively. The 2008 *ROD* for IRP Sites 3 and 5 selected landfill capping and *ICs* as the *remedy* for the *vadose zone* soil and *NFA* for groundwater at these sites. The O&M/LTM of these landfill remedies is ongoing and includes inspections and maintenance of the cover and groundwater, soil moisture, and landfill gas monitoring. The purpose of this monitoring is to demonstrate the effectiveness of the *remedy* and to document that it is performing as designed to protect human health and the environment.

Anomaly Area 3

AA 3, a former refuse disposal area, was historically used as a source of borrow material. The borrow pits and trenches were backfilled with construction debris between 1972 and 1988 and were later covered with fill soil. The 2010 *ROD* for AA 3 selected landfill capping and *ICs* as the *remedy* for the *vadose zone* soil and *NFA* for groundwater at the site. The O&M/LTM of the landfill *remedy* is ongoing and includes inspections and

maintenance of the cover and groundwater and landfill gas monitoring. The purpose of this monitoring is to demonstrate the effectiveness of the *remedy* and to document that it is performing as designed to protect human health and the environment.

IRP Site 16

IRP Site 16, the Crash Crew Training Pit No. 2, consisted of unlined earthen pits or trenches used to train the Station's emergency response personnel in fire fighting techniques. These training activities included using combustible liquids, including *trichloroethene (TCE)*. As a result of these training activities, *TCE* migrated downward and impacted groundwater at concentrations that exceed the *maximum contaminant level (MCL)* for drinking water. The 2003 *ROD* for IRP Site 16 selected *Monitored Natural Attenuation (MNA)* and *ICs* as the *remedy* for groundwater and *NFA* for shallow soil at the site. The *LTM* of the *remedy* is ongoing and includes groundwater monitoring. The purpose of this monitoring is to demonstrate the effectiveness of the *remedy* and to document that it is performing as designed to protect human health and the environment.

IRP Sites 18 and 24

VOC-impacted groundwater originating at IRP Site 24 within the Shallow Groundwater Unit (SGU) migrated into the deeper Principal Aquifer, forming the IRP Site 18 Regional VOC Groundwater Plume. IRP Sites 18 and 24 are defined as groundwater impacted with *TCE* at concentrations exceeding the *MCL*. IRP Site 24, the VOC Source Area, consists of two large aircraft hangars (Buildings 296 and 297) and several smaller buildings that were used historically for aircraft and vehicle maintenance and repair and are the source of the *VOCs* in groundwater. *NFA* for *VOCs* in soil at IRP Site 24 was achieved in 2006. The 2002 *ROD* for IRP Sites 18 and 24 selected extraction and treatment of impacted groundwater, O&M of *remediation* system components, performance monitoring, and *ICs*. The O&M/*LTM* activities are currently in progress at both sites. The purpose of performance monitoring is to demonstrate

the effectiveness of the *remedy* and to document that it is performing as designed to protect human health and the environment.

HOW WAS THE FIVE-YEAR REVIEW CONDUCTED?

The second five-year review for Former MCAS El Toro was conducted in accordance with *CERCLA* guidance published by the U.S. EPA and the Navy's five-year review policy. This review included the following steps:

- **Document and Data Review:** Key documents were reviewed to obtain relevant information that could be used to evaluate the performance and protectiveness of the remedies implemented at the sites.
- **Site Inspections:** Site inspections were conducted on March 6 and March 13, 2014 to provide information about the status of these sites and to visually confirm and document the conditions of the remedies, the sites, and the surrounding areas.
- **Interviews:** Interviews were conducted with various stakeholders including representatives from the regulatory agencies, O&M contractors, RAB members, and other stakeholders to provide additional information about the status of IRP Sites 2, 3, 5, 16, 17, 18, 24, and AA 3.
- **Protectiveness Determinations:** Information gathered during the three steps above helped answer the following questions:
 - ◇ Are the remedies functioning as intended?
 - ◇ Are the exposure assumptions, cleanup levels, data, and *remedial action objectives (RAOs)* used at the time of *remedy* selection still valid?
 - ◇ Is there any new information available that would call into question the protectiveness of the remedies?



Community Notification and Involvement

RAB Meeting—April 23, 2014 - Community members notified that the Second Five-Year Review had been initiated.

RAB Meeting—August 20, 2014 - Community members briefed on the progress of the Second Five-Year Review.

RAB Meeting notifications were published in the Los Angeles Times and the Orange County Register and posted on the Navy's BRAC website.

Technical Assessments and Protectiveness Statement

Based on the technical assessments of the remedies, protectiveness statements were developed for each site. A summary of these technical assessments and the “Protectiveness Statement” is presented below.

Technical Assessments	Sites 2 and 17	Sites 3 and 5	Anomaly Area 3	Site 16	Sites 18 and 24
Is the <i>remedy</i> functioning as intended?	Yes	Yes	Yes	Yes	Yes
Are the exposure assumptions, clean-up levels, data, and RAOs used at the time of <i>remedy</i> selection still valid?	Yes	Yes	Yes	Yes	Yes
Is there any new information available that would call into question the protectiveness of the <i>remedy</i> ?	No	No	No	No	No
Protectiveness Statement	The remedies at IRP Sites 2, 3, 5, 16, 17, 18, 24, and AA 3 are being implemented in accordance with their respective decision documents and are protective of human health and the environment.				

WERE THERE ANY ISSUES THAT PREVENT THE REMEDIES FROM BEING PROTECTIVE?

No issues were identified at the sites evaluated during this second five-year review that currently or in the future would prevent the respective remedies at these sites from being protective of human health and the environment. Therefore, no recommendations or follow-up actions are required to ensure protectiveness of the remedies. However, consistent with U.S. EPA guidance, recommendations pertaining to activities such as O&M and/or LTM of the remedies were made.

MULTI-AGENCY TEAM CONCURS WITH SECOND FIVE-YEAR REVIEW FINDINGS

Based on their review, the BCT concurs with the technical assessments and protectiveness statements presented in the Second Five-Year Review.

NEXT FIVE-YEAR REVIEW

The next five-year review for Former MCAS El Toro will be completed by the end of September 2019, five years from the completion date of this Second Five-Year Review Report.

ACRONYMS AND ABBREVIATIONS

AA 3	Anomaly Area 3
BCT	BRAC Cleanup Team
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DHS	California Department of Health Services
DTSC	California Department of Toxic Substances Control
DON	Department of the Navy
FFA	Federal Facility Agreement
IC	institutional control
IRP	Installation Restoration Program
LTM	long-term monitoring
MCAS	Marine Corps Air Station
MCL	maximum contaminant level
MNA	monitored natural attenuation
NFA	no further action
No.	number
NPL	National Priorities List
O&M	operation and maintenance
RAB	Restoration Advisory Board
ROD	Record of Decision
RWQCB	California Regional Water Quality Control Board, Santa Ana Region
SGU	Shallow Groundwater Unit
TCE	trichloroethene
U.S. EPA	United States Environmental Protection Agency
VOC	volatile organic compound

GLOSSARY OF TERMS

Administrative Record File is a collection of reports and historical documents used in the selection of cleanup and environmental management activities.

BRAC Cleanup Team (BCT) is established for each military base where property will be made available to the local community for reuse. The BCT will include a BRAC Environmental Coordinator (or BEC—in this case, a Navy employee), and representatives from the United States Environmental Protection Agency (U.S. EPA) and state environmental regulatory agencies.

Base Realignment and Closure (BRAC) is the process by which the United States Department of Defense realigns and closes excess military installations.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, is a federal law that regulates environmental investigation and cleanup of sites identified as potentially posing a risk to human health and/or the environment.

Installation Restoration Program (IRP) is the Department of Defense’s program to investigate and clean up environmental contamination at military facilities in full compliance with CERCLA.

Information Repository is the physical location where a collection of site information is maintained. It contains copies of documents available for public review.

Installation Restoration Program (IRP) Sites are areas designated under the Navy’s program to identify, investigate, assess, characterize, clean up, or control past releases of hazardous substances.

Institutional Controls (ICs) are non-engineering mechanisms established to limit human exposure to contaminated soil, sediment, and/or groundwater.

Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. The MCLs are set by the United States Environmental Protection Agency and/or the State of California.

Monitored Natural Attenuation (MNA) is a passive remedial action that observes contaminant levels over consecutive groundwater monitoring events to determine if they are degrading by natural processes.

No Further Action (NFA) is the conclusion that no additional environmental cleanup actions are necessary because a site does not pose an unacceptable risk to human health or the environment.

Remedial Action Objectives (RAOs) are goals established for the protection of human health and the environment.

Record of Decision (ROD) is a public document that explains the selected remedial alternative to be implemented at a specific site. The ROD is based on information and technical analysis generated during the RI/FS and in consideration of public comments received throughout the review process and in response to the Proposed Plan.

Remediation is any active or passive environmental activity that results in the reduction of toxicity, mobility, or volume of contaminants at a site.

Remedy is the final decision as stated in a ROD or decision document that describes the general strategy that will be implemented at a site to reduce, control, or eliminate risks to human health and the environment.

Trichloroethene (TCE) is an industrial solvent within the volatile organic compound (VOC) category.

Vadose Zone is a subsurface zone of soil bounded by the land surface and the water table below. Soil pore spaces in the vadose zone are partially filled with water and air.

Volatile Organic Compounds (VOCs) make up a general category of organic (carbon-containing) compounds that evaporate easily at room temperature. VOCs are commonly used for degreasing, paint stripping, and other industrial operations. At Former MCAS El Toro, historical aircraft maintenance activities used industrial solvents within the VOC category. Some VOCs are known cancer causing compounds.

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Former Marine Corps Air Station El Toro Irvine, California

INFORMATION REPOSITORY AND ADMINISTRATIVE RECORD

These locations have a collection of key reports and historical documents reviewed by the Navy as part of this second five-year review. Please visit the Navy's website for more information: <http://www.bracpmo.navy.mil>

Information Repository

Heritage Park Regional Library
MCAS El Toro *Information Repository*
14361 Yale Avenue
Irvine, CA 92604
(949) 936-4040
Hours: Monday—Thursday: 10:00 A.M. to 9:00 P.M.
Friday and Saturday: 10:00 A.M. to 5:00 P.M.
Sunday: Noon to 5:00 P.M.

Administrative Record File

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