Fact Sheet
CERCLA Five-Year Review
Alameda Point and Fleet and Industrial Supply Center Oakland, Alameda Facility/Alameda Annex
Alameda, California

December 2021

OU-2C, IR Site 5

The 2021 FYR concluded that the remedies put in place at Alameda Point continue to be protective of human health and the environment.

The full FYR Report is available to the public at the information repositories listed on the last page of this Fact Sheet.

Additional information about the report and other Department of the Navy cleanup activities is available online at:

http://www.bracpmo.navy.mil

Inside this issue:

Five-Year Review Complete

The United States Department of the Navy (DON) has completed a Five-Year Review (FYR) of remedial actions (RA) at the former Naval Air Station Alameda (Alameda Point) and the Fleet and Industrial Supply Center Oakland, Alameda Facility/Alameda Annex (FISCA), in Alameda, California. A FYR is required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The 2021 FYR report covers the period between September 28, 2016, and September 27, 2021.

Twenty-one Alameda Point Installation Restoration (IR) sites were evaluated and are at various stages in the CERCLA process, ranging from RA implementation to long-term management (see Table 1 on page 3). This is the first FYR for Alameda Point IR Sites 5, 10, 11, 12, and 21; the second for IR Sites 1, 3, 4, 9, 13, 17, and 19; the third for Alameda Point IR Sites 6, 14, 16, 25, 26, 27, and 28; and the fourth for FISCA IR Site 02 Soil and the Marsh Crust.

This Fact Sheet summarizes the FYR process and the results of the review at Alameda Point and FISCA.

What is the Purpose of a Five-Year Review?

A FYR determines if remedies at a site are/remain protective of human health and the environment. If issues affecting protectiveness are found during the FYR, recommendations are made to address these issues.

A FYR evaluates three major questions:

- Is the remedy functioning as intended?
- Are the exposure levels and remedial action objectives used at the time of the remedy selection still valid?
- Has any other information surfaced that could affect the protectiveness of the remedy?

How is a Five-Year Review Performed?

There are four steps in performing a FYR:

- **Document Review** – Review of remedy decision documents, monitoring and maintenance reports, and technical memoranda.
- **Site Inspections** - Conduct visual confirmation and documentation of the conditions of the remedies, sites, and surrounding areas.
- **Site Interviews** - Conduct interviews with various stakeholders to obtain additional information about the status of IR Sites at Alameda Point and FISCA.
- **Protectiveness Statements** - Information gathered during the first three steps is evaluated to answer the question of whether a remedy is protective of human health and the environment.

OU-3, IR Site 1: Compensatory mitigation wetlands along Oakland Inner Harbor.

History and Background

Alameda Point and FISCA are located on the western tip of Alameda Island in the City of Alameda, California (Figure 1).

Alameda Point consists of 2,675 acres (1,560 acres of uplands and 1,115 submerged acres) comprising land acquired by the DON and land created by filling subtidal areas, natural tidelands, marshlands, and sloughs.

Alameda Point was commissioned in 1940 as the Alameda Naval Air Station and supported the DON's defense mission until its operational closure in 1997, when the name Naval Air Station Alameda was changed to Alameda Point.

Alameda Point was added to the National Priorities List (NPL) in July 1999 under the CERCLA. When Alameda Point was listed for closure, responsibility for managing the environmental cleanup program at Alameda Point passed from the DON to the Base Realignment and Closure (BRAC) Cleanup Team.

The BRAC Cleanup Team at Alameda Point is made up of representatives from the DON, United States Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), and the Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board). The DON and USEPA negotiated and signed the Federal Facility Agreement (FFA) in 2001, and DTSC and the Regional Water Board signed the FFA in 2005.

Figure 2 presents the locations of each site reviewed in the FYR report. Table 1 present constituents of concern and CERCLA remediation status for each site.

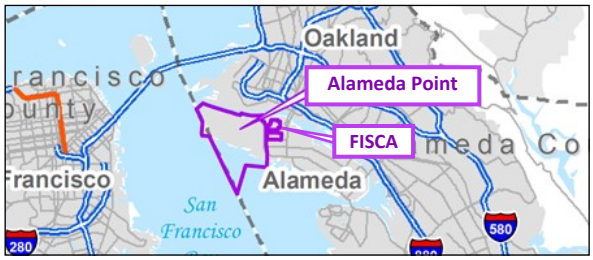


Figure 1: Alameda Point/FISCA, Alameda, California

FISCA

FISCA covers approximately 143 acres east and adjacent to Alameda Point. Until the 1920s, FISCA and the surrounding area existed as undeveloped marshlands and tidal flats along the fringe of San Francisco Bay. The area south of FISCA consisted primarily of residential properties. The DON obtained the southern portion of the area in 1946 and the northern portion in 1966. The property was used as a main supply center supporting the operation of military fleets and shore activities in the Pacific Basin. In 1996, FISCA was designated for closure under the BRAC Act of 1990. FISCA was formally closed in September 1998.

Marsh Crust

The Marsh Crust is a discontinuous layer of sediment contaminated with semi-volatile organic compounds (SVOCs) deposited across FISCA and the western coastal area of Alameda Island (current eastern portion of Alameda Point) from the late 1800s until the 1920s. The contamination is believed to have resulted from discharges of petroleum hydrocarbons from former manufactured gas plants and oil refineries to the surrounding marsh and tidal flats, leaving a layer of contaminated sediment under the 143-acre area that is now FISCA and under the eastern portion of the 2,675 acres at Alameda Point. The Marsh Crust also extends westward beneath Alameda Point.

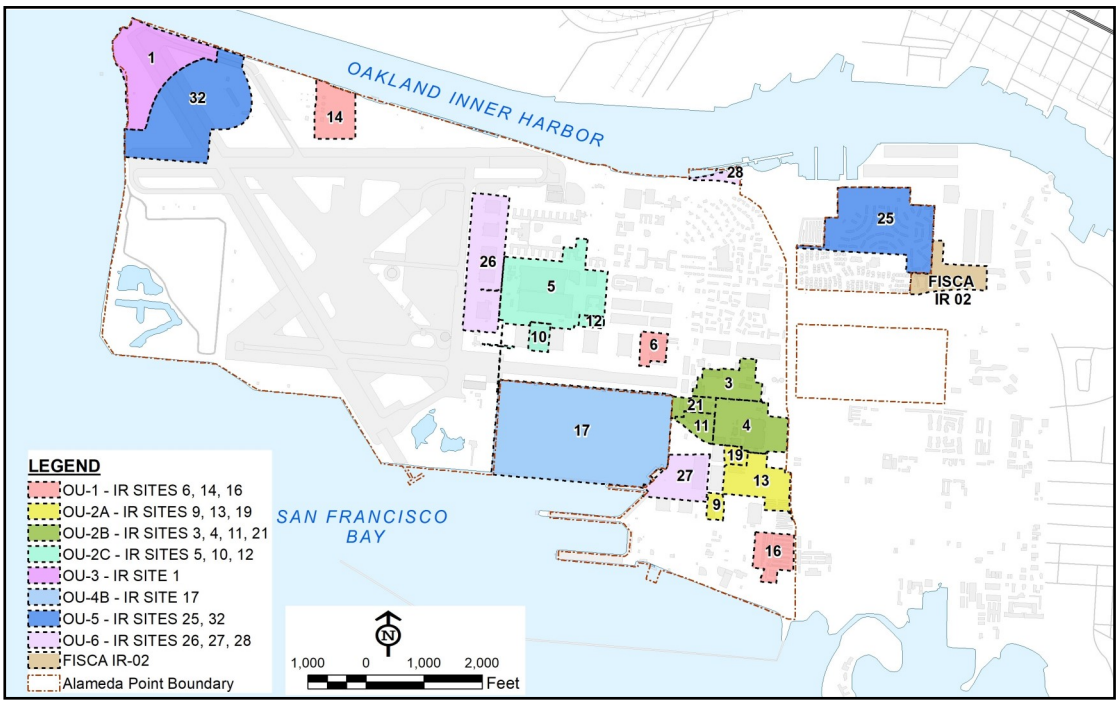


Figure 2: Sites reviewed in the FYR

Table 1 - Summary of IR Sites Included in the Five-Year Review

OU #	IR Site ID	Media	COC	Status
1	6	Groundwater	cis-1,2-DCE, PCE, TCE, VC	RA-O
	14	Groundwater	VC	RA-O
	16	Groundwater	1,2-DCB, 1,3-DCB, 1,4-DCB, cis-1,2-DCE, chlorobenzene, PCE, TCE, VC	RC / LTM
2A	9	Groundwater	1,1-DCA 1,1-DCE, cis-1,2-DCE, 1,2,3-TCP, benzene, MTBE, VC	RC / LTM
	13	Groundwater	benzene, ethylbenzene	RC / LTM
	19	Groundwater	PCE, TCE, VC	RC / LTM
2B	3	Soil	cobalt, lead	RC / LTM
	4	Groundwater	1,2-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, benzene, chlorobenzene, methylene chloride, PCE, TCE, VC	RA-O
		Soil	hexavalent chromium, PCB, pesticides	RC / LTM
	11	Groundwater	1,2-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, benzene, chlorobenzene, methylene chloride, PCE, TCE, VC	RA-O
	21	Groundwater	1,2-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, benzene, chlorobenzene, methylene chloride, PCE, TCE, VC	RA-O
2C	5	Groundwater	Shallow: 1,1-DCA, TCE, VC; Deep: VOCs	RIP / LTM
		Soil and Drain Lines	arsenic, chromium, ethylbenzene, lead, PCE, TCE, thallium, 1,2,4-trimethyl benzene, radium^{-226}	RC / LTM
	5 and 10	Industrial waste line and Soil/Sediment	radium^{-226}	RC / LTM
	10	Soil/Drain Lines	radium^{-226}	RC / LTM
	12	Groundwater	NFA*	NFA*
3	1	Groundwater	VC	RA-O
		Soil	PAHs, PCBs, cadmium, hexavalent chromium, lead, pesticides, radionuclides, zinc	RIP / RA-O
		Surface Water	arsenic, SVOCs, VOCs	n/a
4B	17	Sediment	cadmium, PCBs, pesticides, radium^{-226}	RC / LTM
5	25	Soil	PAHs	RC / LTM
6	26	Groundwater	cis-1,2-DCE, TCE, VC	RIP / RA-O
	27	Groundwater	1,1-DCA, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, VC	RIP / RA-O
	28	Groundwater	copper	RIP / RA-O
		Soil	arsenic, lead, PAHs	RIP / RA-O
--	FISCA IR Site 2	Soil	cadmium, PCBs	RC / LTM
--	Marsh Crust	Soil	PAHs	RIP / LTM

Notes

* PFAS was identified as a potential contaminant at IR Site 12 in 2018. A Preliminary Assessment was conducted by the DON in 2020 and PFAS was removed as a potential contaminant at IR Site 12.

COC = Contaminant of concern
DCA = Dichloroethane
DCB = Dichlorobenzene
DCE = Dichloroethene
LTM = Long-term management
MTBE = Methyl tertiary butyl ether
n/a = Not applicable
NFA = No further action
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PCE = Tetrachloroethene
PFAS = Per- and polyfluoroalkyl substances
RA-O = Remedial action operation
RC = Response complete
RIP = Remedy in place
SVOC = Semivolatile organic compound
TCE = Trichloroethene
TCP = Trichloropropane
VC = Vinyl chloride
VOC = Volatile organic compound

Major Developments Since the Last Five-Year Review

Per- and Polyfluoroalkyl Substances

A Basewide Preliminary Assessment (PA) for Per- and Polyfluoroalkyl Substances (PFAS) was performed to ensure consistency in identifying potential PFAS-impacted areas, and to prioritize further investigation. A final PA report was submitted in May 2021, which recommends further PFAS investigation at the following sites and areas of interest (AOIs):

- **OU-1, IR Site 6** (Aircraft Intermediate Maintenance Facility, Building 41)
- **OU-1, IR Site 14** (Former Fire Training Area)
- **OU-2B, IR Site 4** (Aircraft Engine Facility, Building 360)
- **OU-2C, IR Site 5** (Aircraft Rework Facility, Building 5/5A)
- **OU-2C, IR Site 10** (Missile Rework Facility, Building 400)
- **OU-6, IR Site 26** (Western Hangar Zone)
- **AOI 1, IR Site 35** (Oil-Water Separator 017; Environmental Baseline Survey Parcel 80)
- **AOI 2, Parcel 23** (Open Space)
- **AOI 3, Parcel 26, Zone 7** (Corrosion Control and Aircraft Testing Zone)
- **AOI 4, Parcel 163** (Open Space)
- **AOI 5, Corrective Action Area 10** (Includes the Control Tower Fire Station Building 19)

Work Plans for PFAS investigation are forthcoming for these sites and AOIs.

Are the Remedies Working and Effective?

The information obtained in conducting the FYR for each IR Site at Alameda Point and FISCA concluded all sites continue to be protective of human health and the environment.

Question A: Is the remedy functioning as intended?
Yes. Review of documents, data, site inspections and interviews indicate that the remedies implemented for the sites reviewed as part of the 2021 FYR are functioning as intended by the decision documents.

Question B: Are the exposures levels and remedial action objectives used at the time of the remedy selection still valid?
With the exception of the discovery of potential PFAS-impacted areas, the assumptions made at the time of remedy selections are consistent with current site conditions and remain essentially unchanged. No newly identified exposure pathways have been reported.

Question C: Has other information surfaced that could affect the protectiveness of the remedy?
No other information has surfaced that could affect the protectiveness of the remedy.

OU-4B, IR Site 17: Northwest perimeter of the Seaplane Lagoon.

FISCA, IR Site 2: Remediation complete. Site transferred to City of Alameda for redevelopment (Alameda Landing).

Issues, Follow-up Actions, And Schedule Dates

Issues

OU-1, IR Site 14: Groundwater Institutional Controls* (IC) are in place to address PFAS in groundwater; however, given the detected concentrations and proximity to Oakland Inner Harbor, PFAS impacts to surface water and ecological receptors are unknown at this time. The issue has a milestone completion date of September 2025.

Other Findings

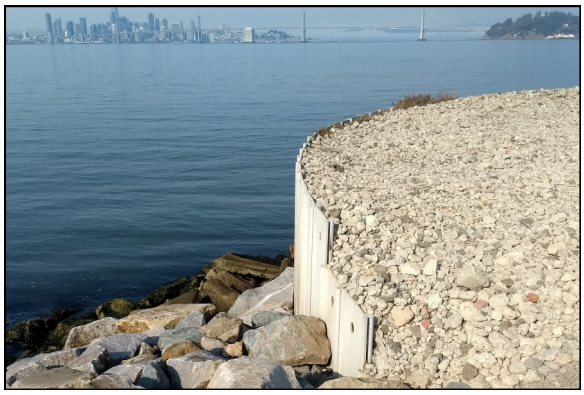
In addition, the FYR identified the following recommendations that may improve performance of the remedy, but that do not affect current and/or future protectiveness.

OU-1, IR Site 6: Monitoring and trend analysis of VC and cis-DCE concentrations is ongoing. Currently, there are no unacceptable exposures to VC and cis-1,2-DCE in groundwater; VC concentrations are below the EPA Vapor Intrusion Screening Levels for industrial exposures. In accordance with the Remedial Action Operation Monitoring Plan, evaluation of bacterial DNA will be conducted to better assess the current biodegradation potential. Additional treatment needs will be determined based on the results of this evaluation.

OU-1, IR Site 14: An evaluation will be conducted to determine if an alternative VC IC termination criterion (currently 15 µg/L) is warranted. The VC evaluation has a milestone completion date of October 2022.

OU-3, IR Site 1: A Groundwater Trigger Level Plan is needed to identify trigger levels that, if exceeded, would initiate further evaluation of whether groundwater in the VOC plume area is impacting surface water at concentrations exceeding applicable or relevant and appropriate requirements (ARAR) used to establish surface water remediation goals (RG). The Navy will work with the BRAC Cleanup Team in an effort to prepare a revised Trigger Level Work Plan as part of a future Site 1 groundwater evaluation.

OU-2B, IR Site 3: Remediation complete. Site has been transferred to the City of Alameda for development.



OU-3, IR Site 1: Waste isolation bulkhead along San Francisco Bay.

OU-6, IR Site 27: Based on the relatively minimal reductions in COC concentrations observed over the past few years, in combination with the characteristics of the groundwater plume, an evaluation of whether monitored natural attenuation (MNA) is capable of achieving RGs in a reasonable timeframe is recommended to determine whether further treatment is warranted. The MNA evaluation has a milestone completion date of October 2023.

**IC's are legal and administrative mechanisms used to implement land use and activity restrictions that limit the exposure to hazardous substances by current and future landowner(s) and user(s) of the property and to maintain the integrity of the remedial action.*

Protectiveness Summary

Twenty-one sites were reviewed for the Alameda Point and FISCA 2021 Five-year Review. The review concluded all remedies put in place at Alameda Point continue to be protective of human health and the environment.

Protective: IR Sites 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 16, 17, 19, 21, 25, 26, 27, 28, FISCA IR Site 02 Soil, and the Marsh Crust.

Protective in the Short Term: IR Site 14

The remedy at OU-1, IR Site 14 is currently protective of human health and the environment. The extent of contamination is defined and ICs are in place to prevent exposures to contaminated groundwater. An RI for PFAS will be conducted based on the site history and sampling results and the draft work plan is currently under review. IR Site 14 is in the remedial action operations stage of the CERCLA process. ICs and LUCs are assessed annually.

Next Five-year Review: 2026

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Department of the Navy

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Information Repository and Administrative Record

The DON maintains two information repositories for Alameda Point and FISCA. The repositories contain project documents and other reference materials related to the DON's IR Program. The repositories are updated as new information becomes available.

Alameda Point

950 West Mall Square
2nd Floor, Rooms 240-241
Alameda, CA 94510

Alameda Library

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