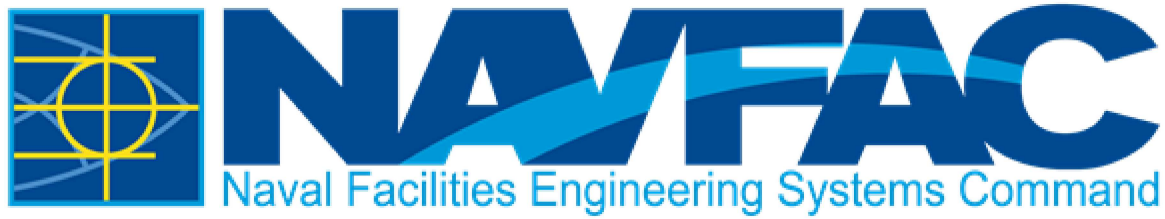


N00236_005178
NAS ALAMEDA, CA
SSIC 5000-33a

**FINAL SITE INSPECTION REPORT PER- AND POLYFLUOROALKYL
SUBSTANCES (PFAS) AT AREAS OF INTEREST (MAIN REPORT AND
APPENDICES A THROUGH G)**

08/11/2023
MULTI-MAC, JOINT VENTURE

Approved for public release: distribution unlimited.



**Naval Facilities Engineering Systems Command Southwest
Base Realignment and Closure
Program Management Office West
San Diego, California**

Final

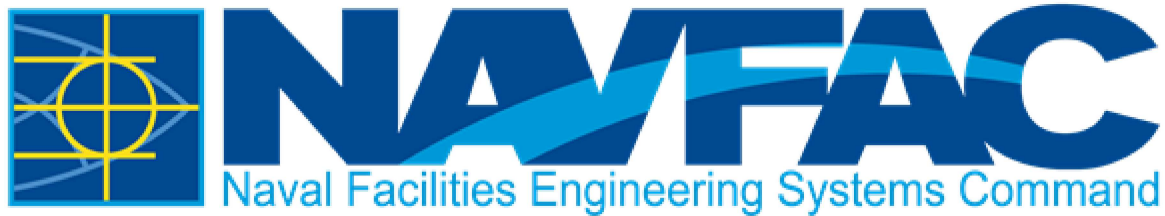
Site Inspection Report

**Per- and Polyfluoroalkyl Substances at Areas of
Interest**

**Former Naval Air Station Alameda
Alameda, California**

August 2023

Approved for public release; distribution is unlimited.



**Naval Facilities Engineering Systems Command Southwest
Base Realignment and Closure
Program Management Office West
San Diego, California**

Final

Site Inspection Report

Per- and Polyfluoroalkyl Substances at Areas of Interest

Former Naval Air Station Alameda
Alameda, California

August 2023

DCN: MMAC-4010-4484-0062

Prepared for:

United States Department of the Navy
Naval Facilities Engineering Systems Command Southwest
Base Realignment and Closure Program Management Office West
33000 Nixie Way, Building 50, Suite 207
San Diego, CA 92147

Prepared by:

Multi-MAC_{JV}

Multi-MAC JV

1851 West 24th Street, Suite 101
Yuma, AZ 85364-6104

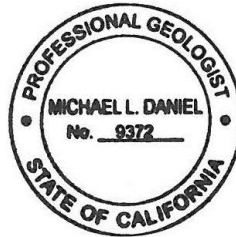
Contract Number: N62470-19-D-4010, Task Order No. N6247321F4484

FINAL
SITE INSPECTION REPORT
PER- AND POLYFLUOROALKYL SUBSTANCES AT AREAS OF INTEREST
FORMER NAVAL AIR STATION ALAMEDA
ALAMEDA, CALIFORNIA

August 2023

Prepared for:
United States Department of the Navy
Naval Facilities Engineering Systems Command Southwest
Base Realignment and Closure Program Management Office West
San Diego, California

Review and Approval



Project Geologist:

Michael L. Daniel

Michael L. Daniel, PG #9372
Multi-MAC JV

(928) 750-0351

Phone

8/11/2023

Date

Project Manager:

Kevin Olness

Kevin Olness, PG #8950
Multi-MAC JV

(619) 204-8195

Phone

8/11/2023

Date

This page is intentionally blank.

Table of Contents

	Page
Review and Approval	i
Acronyms and Abbreviations.....	xi
Executive Summary	xv
1.0 Introduction	1-1
1.1 Per-and Polyfluoroalkyl Substances Overview	1-1
1.2 Project Objectives.....	1-3
1.3 Project Scope	1-3
1.4 Report Organization	1-6
2.0 Installation Description	2-1
2.1 Installation History and Land Use	2-1
2.1.1 History	2-1
2.1.2 Land Use	2-2
2.2 Environmental Setting	2-2
2.2.1 Topography and Climate	2-2
2.2.2 Regional Geology.....	2-3
2.2.3 Surface Water	2-4
2.2.4 Regional Hydrogeology and Groundwater.....	2-4
2.2.5 Biological/Ecological Profile.....	2-7
2.3 Water Supply	2-8
2.4 Previous PFAS Investigations at Former NAS Alameda	2-8
3.0 Site Inspection Field Procedures.....	3-1
3.1 Drilling Activities	3-1
3.2 Surface Soil Samples	3-1
3.3 Subsurface Soil Samples	3-2
3.4 Groundwater Samples.....	3-2
3.4.1 Temporary Monitoring Wells.....	3-2
3.4.2 Existing Groundwater Monitoring Well Development	3-3
3.4.3 Groundwater Monitoring and Sampling	3-3
3.4.4 Sampling Quality Control and Analysis.....	3-4
3.5 Global Positioning System.....	3-4
3.6 Borehole and Temporary Well Destruction.....	3-4

Table of Contents (continued)

	Page
3.7 Investigation-Derived Waste.....	3-4
3.8 Deviations from the SAP	3-5
4.0 Data Assessment	4-1
4.1 Data Usability Evaluation.....	4-1
4.2 Data Collection Documentation Review	4-1
4.2.1 Data Validation Review	4-1
4.2.2 Data Review Conclusions.....	4-5
5.0 Migration/Exposure Pathways and Targets.....	5-1
5.1 Human Receptors and Exposure Pathways	5-1
5.2 Ecological Receptors and Exposure Pathways	5-2
5.3 Fate and Transport of PFAS.....	5-3
6.0 IR Site 2, West Beach Landfill and Associated Wetlands.....	6-1
6.1 Site Background	6-1
6.2 Field Activities.....	6-1
6.3 Analytical Results	6-2
6.4 Exposure Pathways and Potential Receptors.....	6-2
6.4.1 Soil Exposure Pathway.....	6-2
6.4.2 Groundwater Exposure Pathway	6-3
6.4.3 Surface Water Exposure Pathway.....	6-3
6.5 Conclusions	6-3
7.0 IR Site 4 – Aircraft Engine Facility (Building 360).....	7-1
7.1 Site Background	7-1
7.2 Field Activities.....	7-2
7.3 Analytical Results	7-2
7.3.1 Soil Sampling	7-2
7.3.2 Groundwater Sampling.....	7-3
7.4 Exposure Pathways and Receptors.....	7-3
7.4.1 Soil Exposure Pathway.....	7-3
7.4.2 Groundwater Exposure Pathway	7-3
7.5 Conclusions	7-4
8.0 IR Site 5, Building 5/5A (Aircraft Rework Facility)	8-1

Table of Contents (continued)

	Page
8.1 Site Background	8-1
8.2 Field Activities.....	8-2
8.3 Analytical Results	8-2
8.3.1 Soil Sampling	8-2
8.3.2 Groundwater Sampling.....	8-3
8.4 Exposure Pathways and Potential Receptors.....	8-4
8.4.1 Soil Exposure Pathway.....	8-4
8.4.2 Groundwater Exposure Pathway	8-4
8.5 Conclusions	8-4
9.0 IR Site 6, Building 41 (Aircraft Intermediate Maintenance Facility).....	9-1
9.1 Site Background	9-1
9.2 Field Activities.....	9-2
9.3 Analytical Results	9-2
9.3.1 Soil Sampling	9-2
9.3.2 Groundwater Sampling.....	9-2
9.4 Exposure Pathways and Receptors.....	9-3
9.4.1 Soil Exposure Pathway.....	9-3
9.4.2 Groundwater Exposure Pathway	9-3
9.5 Conclusions	9-4
10.0 IR Site 10 – Building 400 (Missile Rework Facility)	10-1
10.1 Site Background	10-1
10.2 Field Activities.....	10-1
10.3 Analytical Results	10-2
10.3.1 Soil Sampling	10-2
10.3.2 Groundwater Sampling.....	10-2
10.4 Exposure Pathways and Receptors.....	10-3
10.4.1 Soil Exposure Pathway.....	10-3
10.4.2 Groundwater Exposure Pathway	10-3
10.5 Conclusions	10-3
11.0 IR Site 26, Western Hanger Zone	11-1
11.1 Site Background	11-1

Table of Contents (continued)

	Page
11.2 Field Activities.....	11-1
11.3 Analytical Results	11-2
11.3.1 Soil Sampling	11-2
11.3.2 Groundwater Sampling.....	11-2
11.4 Exposure Pathways and Receptors.....	11-3
11.4.1 Soil Exposure Pathway.....	11-3
11.4.2 Groundwater Exposure Pathway	11-3
11.5 Conclusions	11-4
12.0 AOI 1: IR Site 35, OWS 017; EBS Parcel 80.....	12-1
12.1 Site Background	12-1
12.2 Field Activities.....	12-1
12.3 Analytical Results	12-2
12.3.1 Soil Sampling	12-2
12.3.2 Groundwater Sampling.....	12-2
12.4 Exposure Pathways and Receptors.....	12-2
12.4.1 Soil Exposure Pathway.....	12-2
12.4.2 Groundwater Exposure Pathway	12-3
12.5 Conclusions	12-3
13.0 AOI 2: Parcel 23F, Taxiway #7.....	13-1
13.1 Site Background	13-1
13.2 Field Activities.....	13-1
13.3 Analytical Results	13-1
13.3.1 Soil Sampling	13-1
13.3.2 Groundwater Sampling.....	13-2
13.4 Exposure Pathways and Receptors.....	13-2
13.4.1 Soil Exposure Pathway.....	13-2
13.4.2 Groundwater Exposure Pathway	13-3
13.5 Conclusions	13-3
14.0 AOI 3: Parcel 26, Zone 7, Corrosion Control and Aircraft Testing Zone.....	14-1
14.1 Site Background	14-1
14.2 Field Activities.....	14-1

Table of Contents (continued)

	Page
14.3 Analytical Results	14-2
14.3.1 Soil Sampling	14-2
14.3.2 Groundwater Sampling.....	14-2
14.4 Exposure Pathways and Receptors.....	14-3
14.4.1 Soil Exposure Pathway.....	14-3
14.4.2 Groundwater Exposure Pathway.....	14-3
14.5 Conclusions.....	14-3
15.0 AOI 4: Parcel 163, Open Space	15-1
15.1 Site Background	15-1
15.2 Field Activities.....	15-1
15.3 Analytical Results	15-1
15.3.1 Soil Sampling	15-1
15.3.2 Groundwater Sampling.....	15-2
15.4 Exposure Pathways and Receptors.....	15-2
15.4.1 Soil Exposure Pathway.....	15-2
15.4.2 Groundwater Exposure Pathway.....	15-3
15.5 Conclusions.....	15-3
16.0 AOI 5: Control Tower Fire Station (Building 19)	16-1
16.1 Site Background	16-1
16.2 Field Activities.....	16-1
16.3 Analytical Results	16-1
16.3.1 Soil Sampling	16-1
16.3.2 Groundwater Sampling.....	16-2
16.4 Exposure Pathways and Receptors.....	16-2
16.4.1 Soil Exposure Pathway.....	16-2
16.4.2 Groundwater Exposure Pathway.....	16-3
16.5 Conclusions.....	16-3
17.0 Summary and Recommendations	17-1
17.1 IR Site 2.....	17-1
17.2 IR Site 4.....	17-2
17.3 IR Site 5.....	17-2

Table of Contents (continued)

	Page
17.4 IR Site 6.....	17-2
17.5 IR Site 10.....	17-3
17.6 IR Site 26.....	17-3
17.7 AOI 1	17-3
17.8 AOI 2	17-3
17.9 AOI 3	17-4
17.10 AOI 4	17-4
17.11 AOI 5	17-4
17.12 Recommendations.....	17-5
18.0 References.....	18-1

List of Appendices

Appendix A: Field Change Request	A-1
Appendix B: Soil Boring and Well Construction Logs.....	B-1
Appendix C: Groundwater Monitoring Well Development and Sampling Field Forms	C-1
Appendix D: Investigation-Derived Waste Manifests.....	D-1
Appendix E: Photograph Log	E-1
Appendix F: Response to Agency Comments on the Draft Site Inspection Report.....	F-1
Appendix G: Third-Party Data Validation Reports	G-1
Appendix H: Laboratory Analytical Reports.....	H-1

Table of Contents (continued)

	Page
List of Figures	
Figure 1: Former NAS Alameda Location Map	Figure-3
Figure 2: Former NAS Alameda PFAS Areas of Interest	Figure-5
Figure 3: IR Site 2 PFAS Sample Locations and Analytical Results	Figure-7
Figure 4: IR Site 4 PFAS Sample Locations and Analytical Results	Figure-9
Figure 5: IR Site 5 PFAS Sample Locations and Analytical Results	Figure-11
Figure 6: IR Site 6 PFAS Sample Locations and Analytical Results	Figure-13
Figure 7: IR Site 10 PFAS Sample Locations and Analytical Results	Figure-15
Figure 8: IR Site 26 PFAS Sample Locations and Analytical Results	Figure-17
Figure 9: AOI 1 PFAS Sample Locations and Analytical Results.....	Figure-19
Figure 10: AOI 2 PFAS Sample Locations and Analytical Results.....	Figure-21
Figure 11: AOI 3 PFAS Sample Locations and Analytical Results.....	Figure-23
Figure 12: AOI 4 PFAS Sample Locations and Analytical Results.....	Figure-25
Figure 13: AOI 5 PFAS Sample Locations and Analytical Results.....	Figure-27

Table of Contents (continued)

	Page
List of Tables	
Table 1-1: PFAS Screening Criteria for Media of Concern	1-7
Table 2-1: 2016 PFAS Analytical Results in Groundwater.....	2-9
Table 3-1: Sample Summary	3-7
Table 6-1: IR Site 2 Groundwater Depths	6-5
Table 6-2: IR Site 2 Analytical Results for PFAS	6-6
Table 7-1: IR Site 4 Groundwater Depths	7-5
Table 7-2: IR Site 4 Analytical Results for PFAS	7-7
Table 8-1: IR Site 5 Groundwater Depths	8-6
Table 8-2: IR Site 5 Analytical Results for PFAS	8-7
Table 9-1: IR Site 6 Groundwater Depths	9-5
Table 9-2: IR Site 6 Analytical Results for PFAS	9-7
Table 10-1: IR Site 10 Groundwater Depths	10-4
Table 10-2: IR Site 10 Analytical Results for PFAS	10-5
Table 11-1: IR Site 26 Groundwater Depths	11-5
Table 11-2: IR Site 26 Analytical Results for PFAS	11-7
Table 12-1: AOI 1 Groundwater Depths.....	12-4
Table 12-2: AOI 1 Analytical Results for PFAS	12-5
Table 13-1: AOI 2 Groundwater Depths.....	13-4
Table 13-2: AOI 2 Analytical Results for PFAS	13-5
Table 14-1: AOI 3 Groundwater Depths.....	14-4
Table 14-2: AOI 3 Analytical Results for PFAS	14-5
Table 15-1: AOI 4 Groundwater Depths.....	15-5
Table 15-2: AOI 4 Analytical Results for PFAS	15-6
Table 16-1: AOI 5 Groundwater Depths.....	16-4
Table 16-2: AOI 5 Analytical Results for PFAS	16-5

Acronyms and Abbreviations

°F	degree(s) Fahrenheit
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
ADONA	4,8-dioxa-3H-perfluorononanoic acid
AFFF	aqueous film-forming foam
amsl	above mean sea level
AOI	area of interest
ARRA	Alameda Reuse and Redevelopment Authority
AST	aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BRAC	Base Realignment and Closure
BSU	Bay Sediment Unit
btoc	below top of casing
CAA	Corrective Action Area
CAS	Chemical Abstracts Service
CCV	continuing calibration verification
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
9CI-PF3ONS	9-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
11CI-PF3OudS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
COC	chemical of concern
CSM	conceptual site model
DERP	Defense Environmental Restoration Program
DL	detection limit
DoD	United States Department of Defense
DON	United States Department of the Navy
DOT	United States Department of Transportation
DPT	direct-push technology
DQO	data quality objective
DTSC	California Environmental Protection Agency Department of Toxic Substances Control
EBS	environmental baseline survey
ELAP	Environmental Laboratory Accreditation Program

Acronyms and Abbreviations (continued)

FWBZ	first water-bearing zone
GAP	generator accumulation point
GPS	Global Positioning System
HFPO-DA	hexafluoropropylene oxide dimer acid
HQ	hazard quotient
IC	institutional control
ICV	initial calibration verification
ID	identification
IDW	investigation-derived waste
IR	Installation Restoration
ITRC	Interstate Technology & Regulatory Council
ITSI	Innovative Technical Solutions, Inc.
J	result estimated
LC/MS-MS	liquid chromatography and tandem mass spectrometry
LCS	laboratory control sample
LDC	Laboratory Data Consultants, Inc.
LOD	limit of detection
mg/kg	milligram(s) per kilogram
mg/L	milligram(s) per liter
MMEC Group	Multi-Media Environmental Compliance Group
MS	matrix spike
MSD	matrix spike duplicate
NA	not applicable
NAS	Naval Air Station
ND	not detected at or above the laboratory limit of detection
NEtFOSAA	N-ethyl perfluorooctanesulfonamidoacetic acid
NMeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid
OU	Operable Unit
OWS	oil/water separator

Acronyms and Abbreviations (continued)

PA	preliminary assessment
PARCCS	precision, accuracy, representativeness, completeness, comparability, and sensitivity
PFAS	per- and polyfluoroalkyl substances
PFBS	perfluorobutane sulfonic acid
PFDA	perfluorodecanoic acid
PFD _o A	perfluorododecanoic acid
PFHpA	perfluoroheptanoic acid
PFHxA	perfluorohexanoic acid
PFHxS	perfluorohexanesulfonic acid
PFNA	perfluorononanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
PFTA	perfluorotetradecanoic acid
PFT _r DA	perfluorotridecanoic acid
PFUnA	perfluoroundecanoic acid
PMO	Program Management Office
PSL	project screening level
PVC	polyvinyl chloride
Q	qualifier
QA	quality assurance
QC	quality control
QSM	Quality Systems Manual
RCRA	Resource Conservation and Recovery Act
Regional Water Board	California Regional Water Quality Control Board
ROD	Record of Decision
RPD	relative percent difference
RSL	regional screening level
SAP	Sampling and Analysis Plan
Shaw	Shaw Environmental, Inc.
SI	site inspection
SNUR	Significant New Use Rule
SOP	standard operating procedure
SWBZ	second water-bearing zone

Acronyms and Abbreviations (continued)

SWMU	solid waste management unit
TCLP	toxicity characteristic leaching procedure
TDS	total dissolved solids
TOC.....	top of casing
U.....	nondetect
UJ	nondetect estimated
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VA	Veterans Affairs

Executive Summary

The site inspection (SI) of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at former Naval Air Station (NAS) Alameda, Alameda, California (Figures 1 and 2), was conducted in accordance with the Final Sampling and Analysis Plan (SAP) for former NAS Alameda (Multi-MAC JV, 2022). The purpose of the SI was to determine, through sampling of soil and groundwater media, whether a release of PFAS had occurred in the areas identified during the preliminary assessment (PA) report as areas where PFAS may have been used, stored, or disposed of (Multi-MAC JV, 2021).

The goal of the SI Report is to determine whether PFAS have been released to the environment at the Installation Restoration (IR) sites and areas of interest (AOIs) identified in the PA Report and to support a decision regarding potential action at each site or AOI. The 11 IR sites and AOIs that were recommended in the PA Report for further evaluation are IR Sites 2, 4, 5, 6, 10, and 26, and AOIs 1, 2, 3, 4, and 5 (Figure 2). The PA Report also recommended IR Site 14 for further evaluation, and it is being investigated separately in a remedial investigation. This SI Report is not intended to delineate the fate and transport or nature and extent of potential PFAS contamination to conduct quantitative risk assessment. PFAS delineation will be conducted during future phases of investigation to identify the extent of the contamination and potential current and future receptors.

As part of its cleanup responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Defense Environmental Restoration Program (DERP), the United States Department of Defense (DoD) provides policy and technical guidance for addressing PFAS in soil and groundwater at military installations and facilities. The guidance includes clarification of and direction for use of applicable human health screening levels for perfluorooctane sulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorobutane sulfonic acid (PFBS), perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), and hexafluoropropylene oxide dimer acid (HFPO-DA), the only six compounds in the PFAS class that have toxicity criteria as of the date of this SI Report (DoD, 2022).

As of May 2022, the United States Environmental Protection Agency (USEPA) had released regional screening levels (RSLs) for 14 PFAS. The recent 2022 DoD memorandum (DoD, 2022) officially confirms the use of only PFOA, PFOS, PFBS, PFNA, PFHxS, and HFPO-DA in the site management decision process to determine whether further evaluation or action is warranted for this project. The 2022 DoD memorandum supersedes and cancels the previous DoD memoranda (DoD, 2019a, 2021). The groundwater and soil screening levels for PFOA, PFOS, PFBS, PFNA, PFHxS, and HFPO-DA used in this SI Report are based on USEPA's RSL calculator and assume a residential scenario and hazard quotient (HQ) of 0.1.

In June 2022, soil and/or groundwater samples were collected at IR Sites 2, 4, 5, 6, 10, and 26, and AOIs 1, 2, 3, 4, and 5 and analyzed for 18 PFAS using liquid chromatography/tandem mass spectroscopy (LC/MS-MS) compliant with DoD Quality Systems Manual (QSM) Version 5.3, Table B-15 (DoD, 2019b). Based on the SI findings, the following areas are recommended for further evaluation for PFAS:

- IR Site 2, West Beach Landfill and Associated Wetlands – Based on the analytical results for groundwater and because groundwater discharges to San Francisco Bay and wetlands (North and South Ponds), a potentially complete exposure pathway to groundwater exists for ecological receptors. The landfill cover at the site consists of 2 feet of imported fill material, and radiological protections prevent penetration below 2 feet; therefore, soil samples were not collected from IR Site 2. Soil/sediment and surface water were not sampled in the wetlands because of the presence of migratory birds, which could not be disturbed. Based on the uncertainty of PFAS in the wetlands, soil/sediment and surface water could be a potentially complete exposure pathway for ecological receptors. Therefore, IR Site 2 is recommended for further investigation of soil/sediment and surface water in the wetlands and groundwater.
- IR Site 4, Aircraft Engine Facility (Building 360) – In groundwater, PFOA was reported at concentrations above the project screening level (PSL) at five existing monitoring wells and one temporary well, and PFOS was reported at concentrations above the PSL at four existing monitoring wells and one temporary well. There are institutional controls (ICs) currently in place to restrict the use of shallow groundwater beneath IR Site 4. Based on the analytical results, IR Site 4 is recommended for further investigation for PFAS in soil and groundwater.
- IR Site 5, Building 5/5A (Aircraft Rework Facility) – Although the United States Department of the Navy (DON) added PFOA and PFOS as emerging contaminants at Operable Unit (OU)-2C (IR Sites 5, 10, and 12) and imposed ICs on the use, handling, and disposal of shallow groundwater for emerging contaminants and chemicals of concern (COCs), IR Site 5 is recommended for further investigation of PFAS in soil and groundwater based on the analytical results that exceeded PSLs.
- IR Site 6, Building 41 (Aircraft Intermediate Maintenance Facility) – In groundwater, PFOA, PFOS, PFHxS, and PFNA were reported at concentrations above the PSLs at one or more wells. However, the DON included PFOA and PFOS as emerging contaminants and imposed ICs on the use, handling, and disposal of shallow groundwater for emerging contaminants and COCs. Based

on the analytical results, IR Site 6 is recommended for further investigation for PFAS in soil and groundwater.

- IR Site 10, Building 400 (Missile Rework Facility) – In groundwater, PFOA, PFOS, and PFHxS were reported at concentrations above the PSLs at one or more wells. However, the DON added PFOA and PFOS as emerging contaminants at OU-2C (IR Sites 5, 10, and 12) and imposed ICs on the use, handling, and disposal of shallow groundwater for emerging contaminants and COCs. Based on the analytical results, IR Site 10 is recommended for further investigation for PFAS in soil and groundwater.
- IR Site 26, Western Hangar Zone – In groundwater, PFOA, PFOS, PFHxS, and PFNA were reported at concentrations above the PSLs at one or more wells. However, the Record of Decision (ROD) required land use controls to be implemented at IR Site 26 to restrict use of the property, and a Memorandum to File was issued to clarify that the boundary for the area requiring IC restrictions may be adjusted as remedial goals are attained. Based on the analytical results, IR Site 26 is recommended for further investigation for PFAS in soil and groundwater.
- AOI 1: IR Site 35, OWS 017; EBS Parcel 80 – PFOA was reported at a concentration above the PSL at one temporary well, and PFOS was reported at concentrations above the PSL at the two temporary wells. Based on the analytical results, AOI 1 is recommended for further investigation for PFAS in soil and groundwater.
- AOI 2: Parcel 23F, Taxiway #7 – PFOS was reported at a concentration exceeding the PSL in subsurface soil at one location. In groundwater, PFOA, PFOS, PFHxS, and PFNA were reported at concentrations above the PSLs at one or more wells. Based on the analytical results for soil and groundwater that exceeded PSLs, AOI 2 is recommended for further investigation of PFAS in soil and groundwater.
- AOI 3: Parcel 26, Zone 7, Corrosion Control and Aircraft Testing Zone – PFOS was reported at concentrations exceeding the PSL in surface and subsurface soil. PFOA, PFOS, PFHxS, and PFNA were reported at concentrations above the PSLs at one or more wells. Based on the analytical results for soil and groundwater that exceeded PSLs, AOI 3 is recommended for further investigation of PFAS in soil and groundwater.
- AOI 4: Parcel 163, Open Space – PFOS and PFNA were reported at concentrations exceeding the PSLs in soil. For groundwater, PFOA, PFOS, and PFHxS were reported at concentrations above the PSLs at the two temporary

wells. Based on the analytical results for soil and groundwater that exceeded PSLs, AOI 4 is recommended for further investigation of PFAS in soil and groundwater.

- AOI 5: Corrective Action Area (CAA) 10, Control Tower Fire Station (Building 19) – PFOS was reported at concentrations exceeding the PSL in surface and subsurface soil. In groundwater, PFOA, PFOS, PFHxS, and PFNA were reported at concentrations above the PSLs at temporary wells. Based on the analytical results for soil and groundwater that exceeded PSLs, AOI 5 is recommended for further investigation of PFAS in soil and groundwater.