

# **JFHQ CA ARNG**

## **Army Cleanup Program**

### **Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
CAARNG	California Army National Guard
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CTC	Cost to complete
DD	Decision Document
FS	Feasibility Study
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
IRA	Interim Remedial Action
KD	Known Distance
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
N/A	Not Applicable
O&M	Operations and maintenance
PA	Preliminary Assessment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation

Acronym	Definition
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance
WBS	Work Breakdown Structure

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
6877A.1019	CC-CAHQ-013-R-01_Leona Heights Rifle Range	LEONA HTS
6877A.1020	CC_CAHQ-014-R-01_Keystone Rifle Range	

# JFHQ CA ARNG

## COMPLIANCE CLEANUP SITES

## CC-CAHQ-013-R-01\_Leona Heights Rifle Range

**HQAES ID:** 6877A.1019

**Alias:** LEONA HTS

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 8/30/2023

**RC Date:** 8/30/2023

**RC Reason:** Not assigned

**Program:** Compliance Cleanup

**Subprogram:** CC

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	4/30/2007	9/30/2009
<b>SI</b>	7/30/2010	9/30/2012
<b>RI/FS</b>	1/30/2013	12/30/2018
<b>RD</b>	4/30/2018	6/30/2019
<b>IRA</b>	--	--
<b>RA(C)</b>	4/30/2018	11/30/2023
<b>RA(O)</b>	--	--
<b>LTM</b>	11/30/2023	6/30/2054

### Site Narrative

The 91-acre Leona Heights Rifle Range is transferred and is located along Keller Blvd (Universal Transverse Mercator (UTM) Zone 10 North; UTM Coordinates 575111.97 and 4180921.45). The range was used for artillery practice, mortar practice, and small arms training by the California Army National Guard (CAARNG) units from approximately 1913 until the mid-1930s. There were as many as five target berms extending east to west as far as 1,000 yards from the firing line. The terrain is very steep and the Munitions Response Site (MRS) is crossed by Rifle Range Creek, which flows from north to south. The lease was extended for five years from 1924 until 1929 and again in 1931. Photographs from the California Guardsman depicted units training at Leona Heights as late as 1934. During a typical year, as many as 30,000 Guardsman fired the prescribed course at the range; Leona Heights Rifle Range was once the largest range on the Pacific Coast. No range features were identified during the Modified Site Visit conducted 20 February 2008. Additionally, there were no Munitions Debris (MD) or Munitions and Explosives of Concern (MEC) identified during the modified field activities on Keller Boulevard, Campus Drive, and Rifle Range Road. Based on historical documentation and personnel interviews, the MRS was used for small arms training and possibly artillery training; as such, the potential density of Unexploded Ordnance (UXO) within the former rifle range has been reported as low. It is unknown what type of artillery practice was conducted. There have been no reports identified that indicated UXO has been discovered during development of the area. No MD or MEC were observed during the 20 February 2008 Modified Site Visit. The approximate MRS boundary for Leona Heights Rifle Range is based on historical documentation, including historical aerial photographs, collected during the site visit. Site Inspection (SI) fieldwork was conducted in 2011. A 3-inch stokes mortar was identified in the visual survey. A Remedial Investigation (RI) was completed at the site. No Further Action was determined for Munitions Constituents (MC), further Remedial Action is required for MEC. The Remedial Action (Construction) (RA(C)) phase is underway at this site. MEC focused surface and subsurface clearance and Land Use Control (LUC) implementation will be conducted.

**Restoration/Cleanup Strategy:** The RA(C) phase is underway at this site. The cost to complete (CTC) estimate for this site assumes Operations and Maintenance (O&M) and five-year reviews under the Long Term Management (LTM) Phase.



## CC\_CAHQ-014-R-01\_Keystone Rifle Range

**HQAES ID:** 6877A.1020

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 10/31/2023

**RC Date:** 10/31/2023

**RC Reason:** Not assigned

**Program:** Compliance Cleanup

**Subprogram:** CC

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	4/30/2007	9/13/2009
<b>SI</b>	7/31/2010	10/31/2012
<b>RI/FS</b>	1/31/2013	2/15/2018
<b>RD</b>	4/30/2019	6/15/2019
<b>IRA</b>	--	--
<b>RA(C)</b>	1/31/2019	10/31/2023
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

### Site Narrative

The Keystone Rifle Range was located in the low foothill of the Sierra Nevada Mountains in Tuolumne County, California, approximately 22 miles northeast of the City of Oakdale and 12 miles southwest of Sonora. The site was bounded on the west and north by the tracks of the Sierra Railroad and State Highway 108/120. The range was bound on the east by Bureau of Land Management property and to the south by private grazing lands being utilized by the current landowner. The site was contained by the Southeast ¼ of Section 11 and the portion of the Southwest ¼ of Section 11 east of the Sierra Railroad within Township 1 South, Range 12 East of the Mount Diablo Range and Meridian. Keystone Rifle Range was comprised of private lands leased by the U.S. Army Corps of Engineers and licensed to the California Army National Guard (CAARNG). The property is fenced and has limited and restricted access. There is a locked gate at the entrance to the property from Highway 108/120. The land is used for seasonal grazing and will continue to be used for livestock grazing. The land owner is interested in having the existing structures at the site removed from the property, and having all the berms graded to the original contour of the land. He is also interested in having samples taken at the range areas to determine whether contamination is present. Keystone Rifle Range consisted of a Known Distance (KD) Range covering approximately 2.76 acres with firing points 100, 200 and 300 meters from the targets. The range had 16 firing points. This range was the southern-most range on Keystone. North of the KD Range was a Pistol Range covering 0.15 acres. North of the Pistol Range was a 25-meter zeroing range covering 0.33 acres. This range had 20 firing points. Further north was a mortar training course that used sub-caliber training rounds. North of the KD Range and west of the Pistol Range was a helicopter landing zone consisting of 100 x 100 foot paved square. The remaining area at Keystone Rifle Range was used for maneuver and dismounted training. No munitions were used by the CAARNG units outside of the designated firing areas. No incendiary or pyrotechnics were allowed to be used on the range. Site Inspection (SI) fieldwork was completed in 2011. Munitions Debris (MD) including a 40 millimeter training/practice and small arms were identified throughout the Munitions Response Site (MRS). A Remedial Investigation (RI) was completed in Fiscal Year (FY)18. Alternative 3 from the Final Record of Decision (ROD) was chosen for the path forward, which includes munitions and explosives of concern

(MEC) surface and subsurface removal. This site was moved from the Defense Environmental Restoration Program to the Compliance Cleanup (CC) program in FY20. Upon completion of the RA(C), restoration activities for the site will be complete.

## SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
6877A.1001	CAHQ-001-R-01_NDNODS Almaden Road Rifle	9/30/2012	ENV Restoration, Army
6877A.1002	CAHQ-002-R-01_NDNODS Camp McQuaide-Capit	9/30/2012	ENV Restoration, Army
6877A.1003	CAHQ-003-R-01_NDNODS Camp Santa Monica	9/30/2012	ENV Restoration, Army
6877A.1004	CAHQ-004-R-01_NDNODS Glen Canyon Park Rifle Range	9/30/2012	ENV Restoration, Army
6877A.1005	CAHQ-006-R-01_NDNODS North Sacramento Rifle Range	9/30/2012	ENV Restoration, Army
6877A.1006	CAHQ-007-R-01_NDNODS Ponto Park Rifle Range	9/30/2012	ENV Restoration, Army
6877A.1007	CAHQ-009-R-01_NDNODS Scoville Dam Range	9/30/2012	ENV Restoration, Army
6877A.1008	CAHQ-005-R-01_NDNODS Nevada City Rifle R	9/30/2012	ENV Restoration, Army
6877A.1009	CAHQ-008-R-01_NDNODS SF Rifle and Pistol	9/30/2012	ENV Restoration, Army
6877A.1010	CAHQ-010-R-01_NDNODS Spring Hill Rifle R	9/30/2012	ENV Restoration, Army
6877A.1011	CAHQ-011-R-01_NDNODS Wildcat Canyon Rifle Range	9/30/2012	ENV Restoration, Army
6877A.1012	CAHQ-012-R-01_NDNODS Willows Rifle Range	9/30/2012	ENV Restoration, Army
6877A.1013	CAHQ-013-R-01_NDNODS Leona Heights Rifle	9/30/2012	ENV Restoration, Army
6877A.1014	CAHQ-014-R-01_Keystone Rifle Range	1/24/2020	ENV Restoration, Army
6877A.1015	CAHQ-015_Former FMS UST	6/30/2015	ENV Restoration, Army
6877A.1016	CAHQ-002-R-02_NDNODS CAMP MCQUAIDE-CAPIT	9/15/2012	ENV Restoration, Army
6877A.1017	CAHQ-008-R-02_NDNODS SF RIFLE AND PISTOL	9/15/2012	ENV Restoration, Army
6877A.1018	CAHQ-014-R-02_KEYSTONE RIFLE RANGE-TRAIN	9/15/2012	ENV Restoration, Army

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	6877A.1020 – 6/2020, 6877A.1019 – 4/2019
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Additional Community Involvement:</b>	N/A
<b>Administrative Record is located at:</b>	3900 Roseville Road North Highlands, CA 95660 916-854-1472
<b>Information Repository is located at:</b>	3900 Roseville Road North Highlands, CA 95660 916-854-1472
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

## **FIVE-YEAR / PERIODIC REVIEW SUMMARY**

### **Review Summary Table**

None

### **ROD/DDs associated with the last Five-Year/Periodic Review**

None

### **Results, Actions & Plans**

None

## LAND USE CONTROLS (LUC) SUMMARY

None

# **TS AFRC LOS ALAMITOS**

## **Army Cleanup Program**

### **Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AFFF	Aqueous film-forming foam
AOI	Area of interest
ARNG	Army National Guard
bgs	Below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAARNG	California Army National Guard
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Crash Fire Rescue
CRWQCB	California Regional Water Quality Control Board
CS	Confirmatory Sampling
DCE	1,2-Dichloroethene
DD	Decision Document
DERP	Defense Environmental Restoration Program
DPVE	Dual Phase Vacuum Extraction
ENV	Environmental
FFO	Fuel farm office
FS	Feasibility Study
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
HRC	Hydrogren Release Compounds
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Plan
JFTB	Joint Force Training Base
JP-4	Jet propellant
K	Thousand

Acronym	Definition
LIF	Laser induced fluorescence
LTM	Long-Term Management
LUC	Land Use Control
MCL	Maximum Contaminant Level
ug/Kg	microgram/kilogram
MNA	Monitored Natural Attenuation
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
ng/L	nanograms/liter
NFA	No further action
OMS	Organizational Maintenance Shop
ORC	Oxygen Releasing Compound
PA	Preliminary Assessment
PFAS	Per- and polyfluoroalkyl substances
PFBS	Perfluorobutanesulfonic acid
PFHxS	Perfluorohexanesulfonic acid
PFNA	Perfluorononanoic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
POC	Point of compliance
ppm	parts per million
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation

Acronym	Definition
SI	Site Inspection
SL	Screening level
TPH-G	Total Petroleum Hydrocarbons-Gasoline
Ug/kg	Micrograms/kilograms
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WCC	Waste management cell
WBS	Work Breakdown Structure

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
1081A.1001	LAAFRC-001_JP4 UST AREA (INCLUDES FUEL FARM OFFICE)	JP-4
1081A.1002	LAAFRC-002_LANDFILL/SEWAGE TRMT/JET ENG TEST	
1081A.1005	LAAFRC-008_UST-BASEWIDE PROGRAM	
1081A.1006	LAAFRC-010_WASHRACK CLARIFIERS, SUMPS, SEABEES	
1081A.1010	CCCAJFTB1_Los Alamitos UST Investigation	AAFES STAT
1081A.1011	CCCA2019-01-P_JFTB LOS ALAMITOS PFAS CONTAMINATION	

# TS AFRC LOS ALAMITOS

## INSTALLATION RESTORATION PROGRAM SITES

# LAAFRC-001\_JP4 UST AREA (INCLUDES FUEL FARM OFFICE)

**HQAES ID:** 1081A.1001

**Alias:** JP-4

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 9/30/2007

**RC Date:** 9/15/2013

**RC Reason:** All Required Cleanup(s) Completed

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	4/15/1993	8/15/1993
<b>SI</b>	8/15/1994	5/15/1995
<b>RI/FS</b>	5/15/1996	2/15/2005
<b>RD</b>	--	--
<b>IRA</b>	4/30/1993	9/30/2007
<b>RA(C)</b>	9/30/2004	9/30/2007
<b>RA(O)</b>	9/30/2004	9/15/2013
<b>LTM</b>	10/31/2013	9/15/2054

## Site Narrative

The JP (jet propellant)-4 area consists of a tank farm, a fuel farm office (FFO) and product lines running between the two. The Tank Farm area is located in the northwest quadrant of the Joint Force Training Base (JFTB) in an area where groundwater levels fluctuate between nine-12 feet below ground surface (bgs). The JP-4 area formerly contained three steel 210K (thousand) gallon aviation gasoline and jet fuel underground storage tanks (USTs). Releases from the USTs and product lines resulted in up to five feet of floating product in the groundwater table. The discovery of the releases resulted in an Interim Remedial Action (IRA), which included the construction of an interceptor/product extraction trench in 1995 to capture contamination downgradient of the source areas. Since June 1996, no measurable thickness of product has been noted, which shows the effectiveness of the IRA process. The Army installed a Dual Phase Vacuum Extraction (DPVE)/air sparging system in Feb 1998 to remove the dissolved-phase contaminants in groundwater and soil. The system was comprised of 26 extraction wells and 37 air sparging wells. The contaminants of concern are petroleum hydrocarbons including benzene, toluene, ethylbenzene, and xylenes (BTEX). It is estimated that greater than 80% of the total contaminant mass was removed, which represents most of the easily recoverable material. The DPVE system was shut down and disassembled. The JP-4 containment system consists of a network of eight shallow groundwater extraction wells located downgradient of the JP-4 Tank Farm plume. Four wells are currently being utilized. The wells were installed in Dec 1995 to provide a hydraulic barrier between the JP-4 Tank Farm plume and off-site residences. Groundwater quality is monitored on a semi-annual basis and results indicate that the barrier is providing an effective hydraulic barrier. Two injections of Oxygen Releasing Compound (ORC) at the JP-4 Tank Farm, were completed in May 2011. The site received regulatory closure from California Regional Water Quality Control Board (CRWQCB) in a no further action (NFA) letter dated July 2012. The letter confirmed the completion of the site investigation, remedial action and groundwater monitoring, which were required to mitigate the release from the UST formerly located at the above described location. Following receipt of the NFA letter from the CRWQCB, monitoring was

suspended at the site. The last groundwater sampling was conducted in Sep 2011. Because of the potential for a remaining source of contamination in the vadose zone, a laser induced fluorescence (LIF) study was conducted in Feb 2012 to identify petroleum products in the vadose zone in the northeast portion of the site. The LIF study indicated that the soil in the vicinity of the removed tanks contained high concentrations of Total Petroleum Hydrocarbons-Gasoline (TPH-G). The U.S. Army Corps of Engineers conducted a review of remedial actions at JFTB in Feb 2011. The review report stated the upgradient and downgradient boundaries of the groundwater plume at the JP-4 Tank Farm and Containment area have not been defined. A second source of contamination appears to be located in the vadose zone of the northeast portion of the JP-4 Tank Farm site. Groundwater remediation in this area is unlikely to succeed until the source is addressed. Groundwater monitoring and five-year reviews will be done at the site. A five-year review was completed in Fiscal Year (FY)16. Six more reviews are planned and will continue indefinitely per Defense Environmental Restoration Program (DERP) Guidance. The remaining monitoring costs for this site are captured under a base wide monitoring contract at Site LAAFRC-002. Monitoring will continue indefinitely. The five-year review costs are also captured under LAAFRC-002. At the FFO portion of the site, air sparging/soil vapor extraction and ORC applications have been completed at the site. Groundwater sampling in 2012 indicated that the petroleum contamination had been reduced to an acceptable level and only arsenic exceeded the Maximum Contaminant Level (MCL).



## LAAFRC-002\_LANDFILL/SEWAGE TRMT/JET ENG TEST

**HQAES ID:** 1081A.1002

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 9/30/2008

**RC Date:** 9/30/2008

**RC Reason:** All Required Cleanup(s) Completed

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	4/15/1993	8/15/1993
<b>SI</b>	8/15/1994	2/15/1996
<b>RI/FS</b>	4/15/1996	10/15/2003
<b>RD</b>	8/15/2004	5/15/2006
<b>IRA</b>	9/30/1999	9/30/2008
<b>RA(C)</b>	8/31/2004	9/30/2008
<b>RA(O)</b>	9/30/2004	9/30/2008
<b>LTM</b>	10/15/2008	9/15/2054

### Site Narrative

This Landfill occupies 28 acres east of the Perimeter Road in the western portion of the Joint Forces Training Base (JFTB). The current footprint of the entire landfill includes the Former Waste Trenches Area and the present waste management cell (WCC). Between the 1940s and late-1980s, a variety of waste material was generated and potentially disposed of in the Landfill.

Over the years, numerous investigations have been performed at the landfill. The conclusion reached by most of the investigators was that groundwater under the landfill area has been impacted by landfill leachate, and it appears that the landfill material has been in contact with the top of the aquifer. Furthermore, contaminant concentrations detected in groundwater were determined to be likely to impact JFTB operations and/or result in off-site contaminant migration that could adversely impact public health. (Interim action has prevented any off-site impact.) Groundwater concentrations in sentinel wells between the landfill and the installation boundary exceed maximum contaminant levels (MCLs).

A Dual Phase Vacuum Extraction (DPVE) system was installed as an Interim Remedial Action (IRA) to mitigate chlorinated Volatile Organic Compound (VOC) contamination in the groundwater and operated through July 2006. The California Regional Water Quality Control Board (CRWQCB) issued a no further action (NFA) letter for the groundwater IRA on August 13, 2007

Following the excavation of waste, backfilling of the trenches, and placement of waste into a newly constructed on-site WCC, the CRWQCB issued an NFA for the Former Waste Trenches on June 3, 2009. The new cell was constructed as an above-ground, lined unit with a leachate collection system, and with alternative soil cover within the foot-print of the Landfill Site. Based on the successful excavation of landfilled waste from the former trenches, it is noted in the NFA that the limited mass of VOCs and metals remaining in the soil beneath the backfilled former trenches within the Landfill site no longer pose a threat to human health, and are not a threat to the beneficial uses of the groundwater in the Orange County Groundwater Management Zone. Therefore, no further action is necessary with respect to the former waste trenches at the Landfill site.

The WCC remains subject to all applicable regulations for closure and post-closure monitoring and maintenance. The waste materials have been removed and groundwater contamination remediated in Former Waste Trenches area. This area cannot be clean closed since the regulatory agency with the authority to clean close is CalRecycles. During the planning process for the remediation of the Former Waste Trenches Area, CalRecycles noted that the post-removal sampling plan didn't meet their requirements for landfill closure. Currently, the entire landfill is still not closed and is still considered to be a landfill even though all the waste material has been removed. California Army National Guard (CAARNG) has determined that the landfill area cannot currently be closed under Title 27. ARNG is exploring the requirements with CalRecycles to determine if additional work could result in closure of the landfill. The WCC is intended to be the final remedial action for the site. A review of the WCC conducted in 2011 identified a number of issues that required either structural or operational changes to the landfill. A new contractor has completed the required repairs/changes and upgrades to stabilize the WCC. A low concentration plume of chlorinated VOCs that originated from the New Crash Fire Rescue (CFR) Training Pit is impacting the upgradient point of compliance (POC) wells at the WCC. The maximum detected concentration of chlorinated VOCs impacting the POC wells is below the concentration that the CRWQCB determined didn't present a risk in the Former Waste Trenches Area.

**Restoration/Cleanup Strategy:** Long Term Management (LTM) will continue, including semi-annual groundwater monitoring and five-year reviews. Semi-annual groundwater monitoring and landfill maintenance and inspection costs for Sites LAAFRC-001 (1081A.1001), LAAFRC-002 (1081A.1002), LAAFRC-008 (1081A.1005), LAAFRC-010 (1081A.1006) and CCCAJFTB1 (1081A.1010) are captured under this site. Sites LAAFRC-001, LAAFRC-008, LAAFRC-010 and CCCAJFTB1 are monitoring for the same contaminants and therefore following a similar path as LAAFRC-002.

## LAAFRC-008\_UST-BASEWIDE PROGRAM

**HQAES ID:** 1081A.1005

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 9/30/2006

**RC Date:** 8/31/2010

**RC Reason:** All Required Cleanup(s) Completed

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	4/30/1993	4/30/1993
<b>SI</b>	8/31/1994	12/31/2000
<b>RI/FS</b>	12/31/1999	9/30/2005
<b>RD</b>	--	--
<b>IRA</b>	3/31/1996	9/30/2006
<b>RA(C)</b>	8/31/2004	9/30/2006
<b>RA(O)</b>	8/31/2004	8/31/2010
<b>LTM</b>	9/30/2010	9/30/2054

### Site Narrative

Building 5 Tank 15, Building 6 Tank 16, Building 25 Tank 18, Building 27 Tanks 32 and 33, Building 35 Tank 31, Building 54 Tank 23, Building 55 Tank 24, Building 59 Tank 28, Building 56 Tank 25, Building 57 underground storage tank (UST), Building 58 Tank 27. These sites were closed with a no further action (NFA) letter from the California Regional Water Quality Control Board (CRWQCB) in August 2013. A final Record of Decision (ROD) will be prepared for these sites. Building 33, Building 37, Building 39 (Solvent Tank), Building 42, Building 43, Tank 21, Building 44, Building 203, Building 255, Building 272, Former Aviation Fuel Farm. These sites were recommended for additional investigation in the Site Inspection (SI) but were not evaluated in the Remedial Investigation (RI). Further investigation was completed in Fiscal Year (FY)12 at Building 37 and 43. Contamination was detected at both sites. Soil Excavation was performed at both sites in FY13. This was followed by monitored natural attenuation. Based on residual contamination, additional groundwater monitoring was performed at Buildings 37 and 43. Two additional wells will be installed in the vicinity of Building 43. Building 158 (Emergency Pump House) is located in the eastern side of the Joint Force Training Base (JFTB). A Dual Phase Vacuum Extraction (DPVE) system was shut down in May 2008 and injections of Advance Oxygen Releasing Compounds (ORC) were conducted in May 2008 and June 2009. In 2010, a soil excavation was performed to remove hydrocarbon-impacted soil in the vicinity of two former extraction/monitoring wells which continued to show elevated concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons-gasoline (TPH-G) after the second ORC injection. The site has received regulatory closure from the CRWQCB in 2011 in a letter stating that based on the removal of free phase petroleum hydrocarbons, petroleum impacted soil, TPH-G and volatile organic compounds (VOCs) from soil vapor and groundwater, and in-situ reduction of TPH-G and VOCs from and in the Building 158 release area, we believe that the site no longer poses a threat to water quality, human health, or the environment. Army National Guard (ARNG) feels that additional investigation may be required based on the post-excavation sampling conducted after the second soil excavation. The concentrations of petroleum products in the soil may still be a point source for groundwater contamination. Building 34, Tank 19 Fire Station Building Concentrations of TPH-G remain at the site above regulatory levels. Monitored Natural Attenuation (MNA) is the remedial action at the site. Application of ORC Advanced was performed during May 2007, however additional investigation was performed in FY13. ORC injections were performed in FY15. Two rounds of ORC and oxidizer were injected to subsurface. A vapor intrusion study was performed in FY13. Groundwater monitoring and five-year reviews will be done at the site. The remaining monitoring costs for this site are captured under a

base wide monitoring contract at Site LAAFRC-002. Monitoring will continue indefinitely. The five-year review costs are also captured under LAAFRC-002.

# LAAFRC-010\_WASHRACK CLARIFIERS SUMPS SEABEES

**HQAES ID:** 1081A.1006

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 9/30/2006

**RC Date:** 10/15/2016

**RC Reason:** All Required Cleanup(s) Completed

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	4/30/1993	8/31/1993
<b>SI</b>	8/31/1994	2/29/1996
<b>RI/FS</b>	8/31/2004	9/30/2005
<b>RD</b>	--	--
<b>IRA</b>	9/30/1996	4/30/2006
<b>RA(C)</b>	8/31/2004	9/30/2006
<b>RA(O)</b>	8/31/2004	10/15/2016
<b>LTM</b>	11/15/2016	9/30/2054

## Site Narrative

Organizational Maintenance Shop (OMS)-8 Clarifier, Vehicle Depot Clarifier, 40th Military Police Compound, Equipment Concentration Station 16, Flight line Pads 1 and 2, Motor Pool, Munitions Bunkers, Nose dock 61 Hangar and Clarifier, Gymnasium Clarifier. These sites were recommended for no further action (NFA) in a 2007 Remedial Investigation (RI) Report. The California Regional Water Quality Control Board (CRWQCB) concurred with RI recommendations and requested that Decision Document (DD) be prepared for concurrence. Building 35 A preliminary review of the RI Phase I soil and groundwater data confirmed the presence of elevated Volatile Organic Compounds (VOCs) in this area. VOCs reported above the groundwater preliminary remediation goals are Trichloroethene, Tetrachloroethene, 1,2-Dichloroethene (DCE), 1,1-DCE, and vinyl chloride. In August 2005, installation of a small satellite Dual Phase Vacuum Extraction (DPVE) system was completed and connected to four extraction wells to treat soil and groundwater contaminations at the western portion of the plume area. The DPVE system was removed in June 2006. Hydrogren Release Compounds (HRC) injections were completed in 2007 and 2009. Regulatory closure was received at this site from Santa Ana Regional Water Quality Control Board in a letter dated March 2013. Hangar 1 Regulatory closure was received at this site from Santa Ana Regional Water Quality Control Board in a letter dated March 2012. Hangar 2/Building 9 The CRWQCB approved Monitored Natural Attenuation (MNA) at this site; however the five-year review identified the need for additional investigation at this site. In Fiscal Year (FY)14, a small satellite pump and treat system was installed and hooked up to a well that historically contained most of the contamination. As of FY15 the pump and treat system has been decommissioned. A formal Feasibility Study (FS) with a Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) Record of Decision (ROD) will be completed to determine the most appropriate treatment method to remediate the site. Paint Spray Booth This site was investigated. No contamination was identified associated with the building. An NFA letter was issued by CRWQCB in March 2012. Seabee Compound The site was investigated and an DPVE system was operated at the site. The CRWQCB issued an NFA for the site in a letter dated February 2012. A DD was prepared to close the following sites: 40th Military Police Compound, Flightline Pads 1 and 2, Hangar 1, Motor Pool, Munitions Bunkers and OMS-8 Clarifier. The Santa Ana Regional Water Quality Control Board concurred with the DD in a letter

dated September 2013. A final DD was prepared to comply with CERCLA requirements in 2016. The site's future liability is rolled up under another site LAAFRC-002. Semi-annual groundwater monitoring and landfill maintenance and inspection will continue.

## CCCAJFTB1\_Los Alamitos UST Investigation

**HQAES ID:** 1081A.1010

**Alias:** AAFES STAT

**Regulatory Driver:** Other

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 9/30/2012

**RC Date:** 9/30/2013

**RC Reason:** All Required Cleanup(s) Completed

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>Other</b>	6/30/1996	12/31/1996
<b>Other</b>	--	--
<b>Other</b>	9/30/2003	3/31/2007
<b>Other</b>	--	--
<b>Other</b>	11/30/2009	5/31/2010
<b>Other</b>	5/31/2007	9/30/2012
<b>Other</b>	1/31/2011	9/30/2013
<b>LTM</b>	9/30/2013	9/30/2054

### Site Narrative

Los Alamitos Joint Force Training Base (JFTB) is a major California Army National Guard (CAARNG) airfield and training base in the Los Angeles area. In addition to military missions, the base is also California's disaster relief hub for the region and supports many other military and government agencies. Los Alamitos is a former Naval Air Station. Building 244 was used as an Army and Air Force Exchange System gas station. The building had three underground storage tanks (USTs) that were removed in 1999 after the ARNG took over the site from the US Navy. JFTB has an active Installation Restoration Plan (IRP) for other leaking tanks, solvent spills, and landfill seepage. As a result of the contamination identified during the UST removal at Building 244, this site was listed as a state of California UST release site. This site is regulated under California UST regulations and the California Porter-Cologne Water Quality Control Act. The UST Removal Report indicated gasoline contamination in the soil. The original contamination was above regulatory levels of 100 parts per million (ppm) in soil. Field notes demonstrate that the contaminated soil was removed at that time; however, the Confirmatory Sampling (CS) records could not be located, therefore, the oversight agency, Santa Ana California Regional Water Quality Control Board (CRWQCB), is requiring additional investigation and sampling of soils and groundwater at the former fuel station to gain regulatory closure. The CRWQCB requires additional sampling in the area of the removed USTs, since no CS results are available. As part of the Remedial Investigation (RI) work, the CRWQCB required 13 soil borings. Three borings were advanced to groundwater in the tank removal area. Ten borings were made along piping runs and went to five feet below ground surface (bgs). The depth to groundwater is approximately eight feet bgs. The RI found groundwater contamination above regulatory limits in the area of the USTs and soil contamination along some of the piping runs. The RI found total petroleum hydrocarbon-gasoline (TPH-G) at 3,000-5,800 ppm in the area of the tanks along with methyl tert-butyl ether at 290-1,600 ppm and tert-butyl alcohol at 9,000 - 53,000 ppm. TPH-G was found at 210 ppm along one piping run. The RI report was completed and submitted to the regulator in March 2007. The regulator required further investigation to determine the extent of contamination with the installation of three groundwater monitoring wells and 10 borings. This work was completed in Fiscal Year (FY)08, with the one year of monitoring done in FY09. The investigation report was provided to the

regulator in October 2008. A soil removal action was completed in Jan 2010. During the soil removal, one monitoring well was destroyed and three additional wells were installed to help delineate the groundwater plume. Oxygen Releasing Compound (ORC) was applied with the backfilled soil. In FY11 a Soil Vapor Intrusion Study was completed. No vapor intrusion risks were identified in the building. In FY12 ORC injections were performed. In FY13 a second round of ORC injections were done followed by performance monitoring. In FY16 a pilot vapor energy generation test will be conducted to address the residual source area contamination remaining under the concrete pad. It is anticipated that this will be the final remedial action for the soils at this site and further remedial action will not be necessary. Groundwater monitoring and five-year reviews will be done at the site. A five-year review was completed in FY16. Six more reviews are planned and will continue indefinitely per Defense Environmental Restoration Program (DERP) Guidance. The remaining monitoring costs for this site are captured under a base wide monitoring contract at Site LAAFRC-002. Monitoring will continue indefinitely. The same contaminants are being sampled at both CCAJFTB1 and LAAFRC-002, therefore the path forward is similar at the sites. The five-year review costs are also captured under LAAFRC-002.



# CA2019-01-P\_JFTB LOS ALAMITOS PFAS CONTAMINATION

**HQAES ID:** 1081A.1012

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 6/15/2025

**RC Date:** 6/15/2025

**RC Reason:** Not assigned

**Program:** Compliance Cleanup

**Subprogram:** CC

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	8/11/2017	9/30/2019
<b>SI</b>	9/7/2018	8/15/2021
<b>RI/FS</b>	6/15/2020	6/15/2025
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	--	--
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

## Site Narrative

Preliminary Assessment (PA) for per- and polyfluoroalkyl substances (PFAS) was done at the California Army National Guard (CAARNG) Joint Forces Training Base Los Alamitos (JFTB LA) in Los Alamitos, California, to assess potential PFAS release areas and exposure pathways to receptors.

Based on documented aqueous film-forming foam (AFFF) releases at the eight areas of interest (AOIs) identified, there is potential for exposure to PFAS contamination in soil, groundwater, surface water, and sediment for JFTB LA staff and other workers. A Site Inspection (SI) was completed at the site. Based on the results of the SI, seven AOIs were recommended for Remedial Investigation (RI).

At AOI1, perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), perfluorobutanesulfonic acid (PFBS), perfluorohexanesulfonic acid (PFHxS), and perfluorononanoic acid (PFNA) in groundwater exceeded the screening levels (SL) of 6 nanograms/liter (ng/L) for PFOA, 4 ng/L for PFOS, 601 ng/L for PFBS, 39 ng/L for PFHxS, and 6 ng/L for PFNA. The maximum concentrations detected in groundwater at AOI1 were PFOA at 166,000 ng/L, PFOS at 11,100 ng/L, PFBS at 759 ng/L, PFHxS at 10,500 ng/L, and PFNA at 28.5 ng/L.

At AOI2, PFOA, PFOS, PFBS, and PFHxS in groundwater exceeded the SL of 6 ng/L for PFOA, 4 ng/L for PFOS, 601 ng/L for PFBS, and 39 ng/L for PFHxS. The maximum concentrations detected in groundwater at AOI2 were PFOA at 62,900 ng/L, PFOS at 1,620 ng/L, PFBS at 3,060 ng/L, and PFHxS at 10,900 ng/L.

At AOI 3, PFOS, PFOA, and PFHxS in surface soil exceeded the individual SLs of 19 microgram/kilogram ( $\mu\text{g}/\text{kg}$ ) for PFOA, 13  $\mu\text{g}/\text{kg}$  for PFOS, and 130  $\mu\text{g}/\text{kg}$  for PFHxS with maximum concentrations of 1,570  $\mu\text{g}/\text{kg}$ , 219  $\mu\text{g}/\text{kg}$ , and 645  $\mu\text{g}/\text{kg}$ . PFOA, PFOS, PFBS, and PFHxS in groundwater exceeded the SL of 6 ng/L for PFOA, 4 ng/L for PFOS, 601 ng/L for PFBS, and 39 ng/L for PFHxS. The maximum concentrations detected in groundwater at AOI3 were PFOA at 1,820 ng/L, PFOS at 110 ng/L, PFBS at 3,060 ng/L, and PFHxS at 10,900 ng/L.

At AOI4, PFOA, PFOS, and PFHxS in groundwater exceeded the SLs of 6 ng/L for PFOA, 4 ng/L for PFOS, 601 ng/L for PFBS, and 39 ng/L for PFHxS. The maximum concentrations detected in groundwater at AOI4 were PFOA at 245 ng/L, PFOS at 401 ng/L, and PFHxS at 360 ng/L.

At AOI5, PFOS and PFOA in surface soil exceeded the individual SLs of 19 µg/kg for PFOA and 13 µg/kg for PFOS with maximum concentrations of 134 µg/kg for PFOA and 352 µg/kg for PFOS. PFOA, PFOS, PFBS, PHF<sub>x</sub>S, and PFNA in groundwater exceeded the SLs of 6 ng/L for PFOA, 4 ng/L for PFOS, 601 ng/L for PFBS, 39 ng/L for PFH<sub>x</sub>S, and 6 ng/L for PFNA. The maximum concentrations detected in groundwater at AOI5 were PFOA at 31,300 ng/L, PFOS at 16,800 ng/L, PFBS at 7,870 ng/L, PFH<sub>x</sub>S at 50,900 ng/L, and PFNA at 12.4 ng/L.

At AOI6, PFH<sub>x</sub>S in groundwater exceeded the SL of 39 ng/L for PFH<sub>x</sub>S. The maximum concentration detected in groundwater at AOI6 was PFH<sub>x</sub>S at 79.4 ng/L.

At AOI8, PFOA, PFOS, PFH<sub>x</sub>S, and PFNA in groundwater exceeded the SL of 6 ng/L for PFOA, 4 ng/L for PFOS, 39 ng/L for PFH<sub>x</sub>S, and 6 ng/L for PFNA. The maximum concentrations detected in groundwater at AOI2 were PFOA at 3,740 ng/L, PFOS at 4,880 ng/L, PFH<sub>x</sub>S at 1,280 ng/L, and PFNA at 247 ng/L.

**Restoration/Cleanup Strategy:** A RI/Feasibility Study (FS) is underway at this site. Although the RI was awarded at the site, future RI costs are necessary to complete the RI report. The FS was awarded, however will be de-scoped and future funds will be required. Once the RI/FS is completed, future actions will be evaluated.

## SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
1081A.1003	LAAFRC-003_CFR REVETMENTS AIRCRAFT WASH	6/15/2005	ENV Restoration, Army
1081A.1004	LAAFRC-005_RIFLE RANGE/AMMO STORAGE	6/30/1999	ENV Restoration, Army
1081A.1007	LAAFRC-011_PESTICIDE STORAGE AREA	10/31/2000	ENV Restoration, Army
1081A.1008	LATB-001-R-01_PHELAN SMALL ARMS RANGE	8/31/2008	ENV Restoration, Army
1081A.1009	PBC Los Al_PBC - Sitewide Total	9/30/2011	ENV Restoration, Army
1081A.1011	CCCA2019-01-P_JFTB LOS ALAMITOS PFAS CONTAMINATION	12/12/2022	CC

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	200408
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	199509
<b>RAB Adjournment Date:</b>	200801
<b>RAB Adjournment Reason:</b>	All environmental restoration remedies are in place and are operating properly and successfully.
<b>Additional Community Involvement:</b>	All sites are RIP, therefore RAB is no longer required.
<b>Administrative Record is located at:</b>	4216 Constitution Ave Building 36 Los Alamitos, CA 90720 562-795-2114
<b>Information Repository is located at:</b>	4216 Constitution Ave Building 36 Los Alamitos, CA 90720 562-795-2114
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

# FIVE-YEAR / PERIODIC REVIEW SUMMARY

## Review Summary Table

Status	Start Date	End Date	End FY
COMPLETE	5/1/2015	5/1/2016	2016
FUTURE	09/01/2024	09/30/2025	2025

## ROD/DDs associated with the last Five-Year/Periodic Review

Associated ROD/DD Name	HQAES ID
NFA ON 17 SUBSITES	1081A.1001
NFA ON 17 SUBSITES	1081A.1002
NFA ON 17 SUBSITES	1081A.1005
NFA ON 17 SUBSITES	1081A.1006

## Results, Actions & Plans

None

## LAND USE CONTROLS (LUC) SUMMARY

None

# **MTC-H CAMP ROBERTS**

## **Army Cleanup Program**

### **Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AOI	Area of interest
CAARNG	California Army National Guard
CC	Compliance-Related Cleanup
CCRWQCB	Central Coast California Regional Water Quality Control Board
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
ET	Evapotranspirative
FS	Feasibility Study
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MEC	Munitions and Explosives of Concern
ug/Kg	microgram/kilogram
mm	millimeter
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
Ng/l	Nanograms/Liter
OSD	Office of the Secretary of Defense
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
PBA	Performance-Based Acquisition
PFAS	Per-and polyfluoroalkyl substances
PFHxS	Perfluorohexanesulfonic acid

Acronym	Definition
PFNA	Perfluorononanoic acid
PFOS	Perfluorooctane sulfonate
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RSL	Regional Screening Levels
SI	Site Inspection
SL	Screening level
Ug/kg	Microgram/kilogram
USACE	United States Corps of Engineers
UST	Underground Storage Tank
WBS	Work Breakdown Structure
WDR	Waste Discharge Requirements
WWII	World War II

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
06740.1019	CPRO-29_CLOSED LANDFILL	CPRO-29
06740.1021	CPRO-31_SOUTH LANDFILL (NEAR DDPD)	CPRO-31
06740.1022	CPRO-33_OLD QUARRY DUMP SITE(BORROW PIT)	--
06740.1051	CA2020-01-P_MTC-H CAMP ROBERTS PFAS CO	--

# **MTC-H CAMP ROBERTS**

**INSTALLATION RESTORATION PROGRAM SITES**

## CPRO-29\_Closed Landfill

**HQAES ID:** 06740.1019

**Alias:** CPRO-29

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 10/15/2006

**RC Date:** 10/15/2006

**RC Reason:** All Required Cleanup(s) Completed

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	2/15/1995	11/15/1995
<b>SI</b>	9/15/1999	12/15/2002
<b>RI/FS</b>	6/15/2005	5/15/2006
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	8/15/2005	10/15/2006
<b>RA(O)</b>	--	--
<b>LTM</b>	11/15/2006	9/15/2054

### Site Narrative

The Closed Landfill is a 9.9-acre permitted inactive area in which waste materials were reportedly disposed of in trench fills from 1977 to 1984. The trench fills were 10 to 15 feet deep and two to three feet wide, and were used for the disposal of domestic trash and construction debris generated at Camp Roberts. Native soil from the trench excavations was used to provide 12-inch thick intermediate cover and 36-inch thick final cover. In addition, there are five other inactive trench fills located to the south of the permitted area that is described above. This inactive area was reportedly used during World War II (WWII), the Korean War and, according to aerial photographs, until 1966. The volume and nature of the wastes disposed are unknown. The thickness and the permeability of the cover material are unknown.

The remedy for closure of the closed landfill was designed and included the installation of an evapotranspirative (ET) or monolithic soil cover based on the Remedial Investigation (RI)/Feasibility Study (FS) completed in 2006. The Central Coast California Regional Water Quality Control Board (CCRWQCB) approved the ET cover and installation was completed during Fiscal Year (FY) 07.

CCRWQCB issued an Order Number R3-2004-0006 requiring California Army National Guard (CA ARNG) to conduct routine groundwater monitoring and cover maintenance and inspection to comply with the State of California General Waste Discharge Requirements (WDR). It was recommended monitoring should be continued at the required frequencies and CA ARNG should continue to evaluate the contaminant data and, if warranted, request reduction or suspension of monitoring at some future date. The tasks to be performed in the long-term management checklist include: conducting semi-annual groundwater monitoring, conducting semi-annual landfill surveys and repairs, submitting semi-annual monitoring and survey reports to comply with WDR, reviewing all analytical data on a yearly basis to determine if monitoring is still required, and conducting a five-year review. Periodic Reviews were completed in 2011, 2017 and 2020.

**Restoration/ Cleanup Strategy:** Long Term Management (LTM) will continue, including semi-annual groundwater monitoring, semi-annual landfill maintenance and inspections and conducting five-year

reviews. Monitoring and Inspection as well as five-year review costs for site CPRO-31/06740.1021 are captured under this site. CPRO-31/06740.1021 is monitoring for the same contaminants based on the professional judgment of Joe Davis and therefore following a similar path as CPRO-29.

# CPRO-31\_South Landfill (Near DDPD)

**HQAES ID:** 06740.1021

**Alias:** CPRO-31

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 10/15/2006

**RC Date:** - -

**RC Reason:** All Required Cleanup(s) Completed

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	2/15/1995	11/15/1995
<b>SI</b>	9/15/1999	12/15/2002
<b>RI/FS</b>	6/15/2005	6/15/2006
<b>RD</b>	- -	- -
<b>IRA</b>	- -	- -
<b>RA(C)</b>	8/15/2005	10/15/2006
<b>RA(O)</b>	- -	- -
<b>LTM</b>	11/15/2006	9/15/2054

## Site Narrative

This landfill of approximately four acres was identified in an undated photograph as the 1941 landfill. No additional information is available regarding the wastes disposed here. During the Site Inspection (SI), eight composite samples were scraped from the landfill surface. Polycyclic Aromatic Hydrocarbons (PAHs) and Total Petroleum Hydrocarbons were detected in the samples. None of the PAH concentrations exceeded the United States Environmental Protection Agency's residential soil exposure Regional Screening Levels (RSL). None of the metals concentrations exceeded ambient concentrations and industrial RSLs. Four borings were completed to groundwater outside the landfill perimeter during the 2002 SI Extension. Groundwater samples were analyzed for solvents, fuels and metals. Several solvents and fuel constituents were detected in groundwater. However, only carbon tetrachloride concentrations (22 microgram/liter) exceeded the Maximum Contaminant Level. Under the Fiscal Year (FY)07 Performance-Based Acquisition (PBA) award, the remedy for closure of the closed landfill was designed and included the installation of an Evapotranspirative (ET) cover. Prior to the implementation of the ET cover, a Remedial Investigation/Feasibility Study (RI/FS) was completed in August 2007. The closure approach followed Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)/ Superfund Amendments and Reauthorization Act documentation requirements to meet the administrative record documentation and public participation with 27 California Code of Regulations landfill closure requirements. The site is closed and is in Long Term Management (LTM) under the PBA contract. Thirty years of LTM costs were stipulated in the Defense Environmental Restoration Program Management Guidance, March 9, 2012 Section 13.a.6. The CERCLA National Contingency Plan stipulates that if hazardous substances remain at a site above levels allowed for unlimited use and unrestricted exposure, five-year reviews will be performed at the site. Additional investigations are required to determine the extent of chlorinated solvents in groundwater and potential Munitions and Explosives of Concern (MEC). A LTM Review of Camp Roberts document was prepared dated October 28, 2013. According to the document, Central Coast California Regional Water Quality Control Board (CCRWQCB) issued an Order Number R3-2004-0006 requiring California Army National Guard (CAARNG) to conduct routine groundwater monitoring and cover maintenance and inspection to comply with the State of California Waste Discharge Requirements (WDRs). The CAARNG has accepted the WDR requirements for the site and is conducting the routine monitoring and inspections. It was recommended in the document that the routine monitoring and inspections required under Order Number R3-2004-0006 should be continued at the required frequencies and CAARNG should continue to evaluate the contaminant data and if warranted, request reduction or suspension of monitoring at some future date. The LTM Review of Camp Roberts document includes an Appendix A that details the tasks to be



performed in the LTM checklist for this site. These tasks include: conducting semi-annual groundwater monitoring, conducting semi-annual landfill surveys and repairs, submitting semi-annual monitoring and survey reports to comply with WDR, reviewing all analytical data on a yearly basis to determine if monitoring is still required, and conducting a five-year review. The semi-annual groundwater monitoring and landfill maintenance and inspection costs as well as five-year review costs for this site are captured under site CPRO-29. A ROD will be completed in FY21 documenting the MEC and groundwater decisions. Based on the Record of Decision (ROD), land use controls (LUCs) that are in place will remain and groundwater monitoring and annual inspections will continue.

# CPRO-33\_OLD QUARRY DUMP SITE(BORROW PIT)

**HQAES ID:** 06740.1022

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 1/31/2026

**RC Date:** - -

**RC Reason:** Not assigned

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	2/28/1995	11/30/1995
<b>SI</b>	12/1/2014	12/31/2014
<b>RI/FS</b>	1/1/2021	1/31/2026
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	--	--
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

## Site Narrative

The Old Quarry Site is approximately 14.2 acres and is surrounded by a locked chain-link fence. The site lies topographically within a quarried depression that is circular in shape, with inwardly sloping sides, and a flat ground surface in the interior that encompasses approximately 6 acres. The site was originally established during construction of the installation, and quarried earth materials were used sporadically for engineering purposes (for example, road construction) during active periods at the base. Reported by the United States Corps of Engineers (USACE) in a 1999 report entitled Final Report, Borrow Pit A, Camp Roberts, the site was also utilized by the base for temporary storage of construction debris and other materials prior to transfer and disposal at other locations. Some of the stored material (wooden debris {pallets, furniture}, metal {ammunition boxes, bed springs, drums}, household [mattresses], fragments of concrete with rebar [slabs, footings]; and tires) were buried at the site when it was converted into a rock/concrete crushing training facility starting in 2004. The southern slope of the site was found to contain buried debris when an exit road was being constructed in late 2004 or early 2005 for the rock/concrete crushing facility. During construction, another ramp was constructed at the west side of the site. Soil and debris from the hillside were used to build a ramp. A 40 millimeter (mm) grenade was reportedly discovered on the hillside during the same work. It was presumably destroyed by Vandenberg Explosive Ordnance Disposal, based on a conversation with Colonel Walter Goodwater of the California Army National Guard (CAARNG). No records have been found to confirm the discovery or destruction of this Munitions and Explosives of Concern (MEC). During a site visit conducted 27 February 2013 with USACE- Sacramento District, range-related debris consisting of packaging material associated with 40mm grenades was identified on the ground surface of the ramp, and munitions debris consisting of expended parachute flares were found on the ground around the debris pile. Additionally, a Probability Assessment (PA) prepared on July 31, 2013 by the CAARNG listed the probability of encountering MEC during the Site Inspection (SI) as moderate to high. A Remedial Investigation/Feasibility Study (RI/FS) was contracted at this site in Fiscal Year (FY)21. Additional phases will be assessed at the completion of the RI/FS.

# CA2020-01-P\_MTC-H CAMP ROBERTS PFAS CONTAMINATION

**HQAES ID:** 06740.1051

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 9/15/2032

**RC Date:** 9/15/2032

**RC Reason:** Not assigned

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	8/11/2017	11/5/2019
<b>SI</b>	12/6/2019	9/15/2023
<b>RI/FS</b>	9/15/2025	9/15/2032
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	--	--
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

## Site Narrative

A Preliminary Assessment (PA) was completed for per- and polyfluoroalkyl substances (PFAS) at the California Army National Guard (CAARNG) Camp Roberts in Monterey and San Luis Obispo Counties, California, to assess potential PFAS release areas and exposure pathways to receptors. Four areas of interest (AOIs) related to potential PFAS releases were identified at Camp Roberts during the PA. Based on information obtained during the PA at these AOIs, there is potential for exposure to PFAS contamination in surface soil and intermittent surface water and sediments to site workers, construction workers, residents, recreational users, and trespassers via ingestion and inhalation; subsurface soil to site and construction workers via inhalation; and groundwater to all receptors via ingestion. A Site Inspection (SI) was completed at the site. Based on the results of the SI, at AOI 1, perfluorooctane sulfonate (PFOS) in surface soil exceeded the screening level (SL) of 13 microgram/kilogram ( $\mu\text{g}/\text{kg}$ ), with a maximum concentration of 443  $\mu\text{g}/\text{kg}$ . At AOI 2, PFOS in surface soil exceeded the SL of 13  $\mu\text{g}/\text{kg}$ , with a maximum concentration of 584  $\mu\text{g}/\text{kg}$ ; in groundwater, PFOS exceeded the SL of 4 ng/L, with a maximum concentration of 15.7 ng/L and perfluorohexane sulfonate (PFHxS) exceeded the SL of 39 ng/L, with a maximum concentration of 85.6 ng/L. At AOI 3 PFOS in surface soil exceeded the SL with a maximum concentration of 44.7  $\mu\text{g}/\text{kg}$ ; in groundwater, PFOA exceeded the SL of 4 ng/L, with a maximum concentration of 8.09 ng/L and perfluorononanoic acid (PFNA) exceeded the SL of 6 ng/L, with a maximum concentration of 8.09 ng/L. At AOI 5, PFOS in surface soil exceeded the SL of 13  $\mu\text{g}/\text{kg}$ , with a maximum concentration of 49.3  $\mu\text{g}/\text{kg}$ . Based on the results of the SI, further evaluation of AOIs 1, 2, 3, and 5 is warranted in a Remedial Investigation (RI).

The Office of the Secretary of Defense (OSD) issued guidance on 6 July 2022 to adopt the US Environmental Protection Agency regional screening levels (released on 18 May 2022) as the OSD SLs for groundwater and soil to determine which sites move from SI to RI. The SI report for Camp Roberts is in the process of being updated with these new SLs. Because site concentrations of PFOS, PFOA, and

PFHxS in groundwater and soil exceed the new SLs, further investigation as a RI/Feasibility Study (FS) will be needed at these four AOIs.

The subject site was tracked as 06740.1050 under the Compliance-related Cleanup (CC) program. In June 2022, this site was determined to be eligible for the Defense Environmental Restoration Program (DERP).

**Restoration/Cleanup Strategy:** A RI/FS will be completed at this site. Further actions cannot be determined until after the RI/FS is complete.

## SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
06740.1001	CPRO-01_POL SPILL SITES	12/31/2001	ENV Restoration, Army
06740.1002	CPRO-04_OLD ARTILLERY FIRING POINTS	3/31/1997	ENV Restoration, Army
06740.1003	CPRO-05_OLD BATTERY DISP DRAINAGE DITCH	7/31/1997	ENV Restoration, Army
06740.1004	CPRO-08_WASHRACKS @ MATES FACILITY	12/31/1996	ENV Restoration, Army
06740.1005	CPRO-10_Industrial Area Shops (900 block	12/15/2014	ENV Restoration, Army
06740.1006	CPRO-12_PROPANE MIXING PLANT #1	11/30/1995	ENV Restoration, Army
06740.1007	CPRO-13_PROPANE MIXING PLANT #2	11/30/1995	ENV Restoration, Army
06740.1008	CPRO-14_PROPANE MIXING PLANT #3	11/30/1995	ENV Restoration, Army
06740.1009	CPRO-15_LAUNDRY FACILITY	3/31/2001	ENV Restoration, Army
06740.1010	CPRO-16_Dry Cleaning Facility Bldg 844-8	9/30/2006	ENV Restoration, Army
06740.1011	CPRO-17_PHOTO LAB (BUILDING 6001/6014)	9/30/2006	ENV Restoration, Army
06740.1012	CPRO-18_DISPENSARY BLDG 4050	11/30/1995	ENV Restoration, Army
06740.1013	CPRO-19_PATEC OPS @ RANGES 5/12/18	11/30/1995	ENV Restoration, Army
06740.1014	CPRO-20_TRAINING AREA B(OLD IMPACT AREA)	11/30/1995	ENV Restoration, Army
06740.1015	CPRO-21_TRAINING AREA Y(OLD IMPACT)	11/30/1995	ENV Restoration, Army
06740.1016	CPRO-22_NORTH IMPACT AREA(352HA)/FIRING	11/30/1995	ENV Restoration, Army
06740.1017	CPRO-24_CBR(RCA) TRAIN. SITES BLDGS 1450	11/30/1995	ENV Restoration, Army
06740.1018	CPRO-25_PESTICIDEBLDG6457A 6457B 6417	12/31/2000	ENV Restoration, Army
06740.1020	CPRO-30_SEWAGE TREATMENT PLANT BLDG 701	2/28/1997	ENV Restoration, Army
06740.1023	CPRO-34_DISPOSAL PITS EAST GARRISON(COF)	11/30/1995	ENV Restoration, Army
06740.1024	CPRO-38_OB/OD SITE RANGES 39 & 40	12/31/1997	ENV Restoration, Army
06740.1025	CPRO-39_FIRE TRAINING AREA	12/31/2002	ENV Restoration, Army
06740.1026	CPRO-40_BUILDINGS 3026	3/31/2001	ENV Restoration, Army
06740.1027	CPRO-41_BUILDING 27110	11/30/1995	ENV Restoration, Army
06740.1028	CPRO-42_WAREHOUSE AREA BLADDER FARM TRUC	3/31/2001	ENV Restoration, Army

HQAES ID	Site Name	Site Closeout Date	Program Code
06740.1029	CPRO-43_AIRFIELD FUEL STORAGE	3/31/2001	ENV Restoration, Army
06740.1030	CPRO-44_DPDD YARD BLDGS 948 & 949	9/30/2006	ENV Restoration, Army
06740.1031	CPRO-45_AMMO SUPPLY POINT BLDG 14420	11/30/1995	ENV Restoration, Army
06740.1032	CPRO-46_OLD HOSPITAL AREA	3/31/2001	ENV Restoration, Army
06740.1033	CPRO-47_AAFES GAS STATION	11/30/1995	ENV Restoration, Army
06740.1034	CPRO-48_VEHICLE MAINT. SHOPS BLDGS 3023	9/30/2006	ENV Restoration, Army
06740.1035	CPRO-49_EAST GARRISON MOTOR SHOPS	11/30/1995	ENV Restoration, Army
06740.1036	CPRO-50_MOTOR MAINT SHOP BLDG 6407	11/30/1995	ENV Restoration, Army
06740.1037	CPRO-51_HOBBY SHOP BUILDING 2014	3/31/2001	ENV Restoration, Army
06740.1038	CPRO-52_DIR OF LOGISTICS BLDG 907 & 914	11/30/1995	ENV Restoration, Army
06740.1039	CPRO-53_7TH INF DIV MAINT SHOP BLDG 702	3/31/2001	ENV Restoration, Army
06740.1040	CPRO-54_SWIMMING POOL DRAINAGE SWALE	11/30/1995	ENV Restoration, Army
06740.1041	CPRO-55_PCB TRANSFORMERS ENGINEERING YAR	10/31/1997	ENV Restoration, Army
06740.1042	CPRO-56_ABANDONED UST INSTALLATION WIDE	11/30/1995	ENV Restoration, Army
06740.1043	CPRO-58_BUILDING 3065	3/31/2001	ENV Restoration, Army
06740.1044	CPRO-59_RANGE CONTROL BLDGS 14302	11/30/1995	ENV Restoration, Army
06740.1045	CPRO-60_FMC CORP. BLDGS 7026 & 7027	9/30/2007	ENV Restoration, Army
06740.1046	CPRO-61_NACIMIENTO TRIBUTARY LANDFILL	9/30/2003	ENV Restoration, Army
06740.1047	CPRO-62_FORMER FUEL OIL UST (BLDG 969)	3/31/2001	ENV Restoration, Army
06740.1048	CPRO-001-R-01_INFANTRY ANTI-AIRCRAFT RAN	6/30/2008	ENV Restoration, Army
06740.1049	PBC at Roberts_Consolidated PBA Contract	9/30/2007	ENV Restoration, Army
06740.1052	CCCA375051_Camp Roberts FMS21 Maintenance	5/31/2009	Compliance Cleanup
06740.1050	CCCA2020-01-P_MTC-H CAMP ROBERTS PFAS CONTAMINATION	6/17/2022	Compliance Cleanup

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	2/15/2018
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Additional Community Involvement:</b>	N/A
<b>Administrative Record is located at:</b>	Camp Roberts HWY 101 Building 3022 Camp Roberts, CA
<b>Information Repository is located at:</b>	Camp Roberts HWY 101 Building 3022 Camp Roberts, CA
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

# FIVE-YEAR / PERIODIC REVIEW SUMMARY

## Review Summary Table

Status	Start Date	End Date	End FY
COMPLETE	12/31/2007	12/31/2010	2011
COMPLETE	1/1/2015	12/12/2015	2017
FUTURE	09/01/2024	09/30/2025	2025

## ROD/DDs associated with the last Five-Year/Periodic Review

Associated ROD/DD Name	HQAES ID
REMEDIAL INVESTIGATION AND INTERIM REMOVAL	06740.1019
	06740.1021

## Results, Actions & Plans

Results	Actions	Plans
Multiple sites still have contamination above cleanup levels.	Additional sampling will be completed.	Based on sample results a more aggressive method of treatment may be completed.



## LAND USE CONTROLS (LUC) SUMMARY

ROD/DD	LUC Title	HQAES ID
REMEDY IN PLACE SOUTH AND CLOSED LANDFIL	REMEDY IN PLACE SOUTH AND CLOSED LANDFIL	06740.1019
REMEDY IN PLACE SOUTH AND CLOSED LANDFIL	REMEDY IN PLACE SOUTH AND CLOSED LANDFIL	06740.1021

# **CAMP SAN LUIS OBISPO**

## **Army Cleanup Program**

### **Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AOI	Area of Interest
CAARNG	California Army National Guard
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
Ng/L	Nanograms/Liter
PA	Preliminary Assessment
PFAS	Per-and polyfluoroalkyl substances
PFH <sub>x</sub> S	Perfluorohexane sulfonate
PFNA	Perfluorononanoic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design

Acronym	Definition
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SLO	San Luis Obispo
Ug/kg	Micrograms/Liter
UST	Underground Storage Tank
WBS	Work Breakdown Structure

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2939A.1001	CCCAF35022_CAMP SAN LUIS OBISPO REMEDIAT	CSLO REMEDI
2939A.1002	CCCAF35081_CAMP SLO FMS 19 FORMER UST SI	--
2939A.1004	CA2020-02-P_CAMP SAN LUIS OBISPO PFAS	--

# CAMP SAN LUIS OBISPO

## COMPLIANCE CLEANUP SITES



## CCCAF35022\_Camp San Luis Obispo Remediation

**HQAES ID:** 2939A.1001

**Alias:** CSLO REMED

**Regulatory Driver:** State Law/Statute

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 3/31/2011

**RC Date:** 12/15/2015

**RC Reason:** All Required Cleanup(s) Completed

**Program:** Compliance Cleanup

**Subprogram:** CC

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	2/28/1995	5/31/1996
<b>SI</b>	2/28/1997	3/31/2000
<b>RI/FS</b>	9/30/2001	8/31/2005
<b>RD</b>	--	--
<b>IRA</b>	5/31/2003	4/30/2008
<b>RA(C)</b>	2/28/2006	3/31/2011
<b>RA(O)</b>	3/31/2011	12/15/2015
<b>LTM</b>	12/15/2015	12/15/2054

### Site Narrative

Camp San Luis Obispo (CSLO) is the original home of the CAARNG, established in 1916. The site encompasses 16 former "hutment" areas (Areas A - P) which covered 63 acres within the 5,320-acre CSLO training site. A network of USTs, Aboveground Storage Tanks (ASTs) and piping was built during World War II (WWII) to support hundreds of small two-man "hutments." The heating oil systems were taken out of service in 1987 in accordance with a notice of violation issued by San Luis Obispo County. A general assessment was completed in 1991. A new barracks construction project in 1991 uncovered extensive total petroleum hydrocarbons (TPH) contamination in the soil, which prevented future construction and threatened water quality in the nearby creeks. Hutments in areas C, D, E, F, and H were removed along with about 26,000 cubic yards (cy) of contaminated soil. The soil was spread and land-farmed to remove the diesel contamination. Additional hutments along with tanks and approximately 20,000 feet of piping were removed and recycled in phases from 1991 through 2005. A Preliminary Assessment (PA) was completed in 1996. A site-wide assessment and soil assessment for a proposed dining hall were completed in 1997 and 2000, respectively. A groundwater (GW) investigation was completed around Hutment Area K in 2001. By 2002 all the hutments except those in Area P had been removed. A GW investigation of the hutment areas was initiated in 2003 along with a major soil investigation. Two 1,000-cy bio-piles were constructed in 2003 for soils removed from Areas E, I, K, M, and O. Additional soil excavation was completed in 2004 and placed in the newly constructed land farm unit in 2005. Also in 2005, 18 California Pepper Trees were planted between Areas M and N and Dairy Creek as a test for phyto-remediation to help prevent surface water contamination of the creek. During a water line replacement project in 2008, the trees were accidentally removed by a contractor. The trees were not re-planted. The last hutments in Area P were removed in 2005. Site investigations were conducted in accordance with the Porter-Cologne Water Quality Control Act and at the direction of the Central Coast Regional Water Quality Control Board (CCRWQCB), the state regulatory agency overseeing the site cleanup. Some areas of the site required remedial action for extensive soil and GW fuel oil contamination from the network of heating oil tanks and associated piping. TPH contamination in the soil exceeded 15,000 parts per million (ppm) and was as high as 24 ppm in GW. Soil and GW TPH

sampling results exceeded the regulatory threshold of 100 milligrams/kilogram for soil and 100 ppb for GW. Ten of the 16 hutment areas (A, B, C, D, E, F, G, H, L and P) received approval for No Further Action (NFA) from the CCRWQCB. Twenty-seven monitoring wells were installed and sampled quarterly to delineate the GW plume. In 2006 one well was destroyed during the removal of contaminated soil in Area P. Groundwater was encountered between 7 and 18 feet below ground surface (bgs). Four wells had hits for TPH above regulatory limits. The highest concentration was 6.1 ppm. These wells are located downstream from Areas M and N but upstream from Dairy Creek. Water samples from the creek in 2006 did not show contamination, leading to the conclusion that the plume is traveling under Dairy Creek and not into the creek. Land-farming of contaminated soils was completed in 2006. The CCRWQCB approved the closure of the land farm. The land farm was demolished in April 2008. A pilot study for the use of high vacuum dual-phase extraction (HVDPE) to remove soil and GW contamination was completed in July 2006. The pilot test focused on Areas M and N which are closest to Dairy Creek. Test results were provided to the regulator to gain approval for installation of the system. Twenty-six GW wells were monitored in 2006 and 2007. Sample results were used to create trend analyses. Semi-annual GW monitoring was conducted in March and October 2008, and in August and December 2009. Twenty-six wells were sampled in the first event; only 16 were sampled in the second. For both events, six wells were sampled for Monitored Natural Attenuation (MNA) characteristics. Semi-annual monitoring events were conducted again in June and November 2010. MNA sampling showed that aerobic biodegradation was occurring. Plans to construct a High Vacuum Dual Phase Extraction (HVDPE) system work in Areas M and N included a national pollutant discharge elimination system (NPDES) permit. The NPDES permit was funded in FY07. The plan was approved by the regulator in June 2008. Construction of the system began in December 2010. The system started operating in 2011. The system continued to operate through March 2012; then it was shut down temporarily. FY12 funds were used to continue system operation and perform GW monitoring. FY13 funds were also used to continue operating the system for six months, conduct groundwater sampling, and then disassemble the system. The system was shut down in April 2013. Groundwater sampling in May 2013 showed concentrations of TPH had increased (rebounded) slightly. A final HVDPE operation report summarizing groundwater concentrations in monitoring wells, TPH mass removal, and trends over time was submitted to the CCRWQCB in January 2014. A work plan to disassemble the system and close the extraction well network was subsequently approved by CCRWQCB. FY14 funds were used to close most of the network and site monitoring wells. Groundwater sampling was done in February 2014, before the closure of all but seven selected wells. Per discussions with the regulator, a path to site closure was developed, which included one more year of groundwater monitoring of seven wells. FY14 funds were used to continue groundwater monitoring of the remaining wells.

After three post-HVDPE operation semi-annual groundwater monitoring events and completion of a final report summarizing all groundwater monitoring data for areas M and N, a request for site closure was submitted to the CCRWQCB in July 2015. A land use control (LUC) document was required by CCRWQCB, as residual fuel contamination in the site soil covered a large area. The LUC document was drafted in September and finalized in November 2015. It was signed by the CSLO installation commander, and became part of the CSLO base master plan. The last seven wells were abandoned in late November 2015. In mid-December 2015, the CCRWQCB issued a no further action letter for the site.

Cleanup Strategy: Six five-year site reviews will be conducted beginning in 2018. Costs will be captured under CCCAF35081.

## CCCAF35081\_Camp SLO FMS 19 Former UST Site

**HQAES ID:** 2939A.1002

**Alias:** None

**Regulatory Driver:** State Law/Statute

**RRSE:** Not assigned

**MRSPP:** Not assigned

**RIP Date:** 9/15/2013

**RC Date:** 9/15/2013

**RC Reason:** All Required Cleanup(s) Completed

**Program:** Compliance Cleanup

**Subprogram:** CC

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	1/15/1994	12/15/1994
<b>SI</b>	1/15/1996	6/15/2009
<b>RI/FS</b>	--	--
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	6/15/2009	9/15/2013
<b>RA(O)</b>	--	--
<b>LTM</b>	10/15/2013	9/15/2054

### Site Narrative

Camp San Luis Obispo (CSLO) is the original home of the California Army National Guard (CAARNG), established in 1916. In 1994, there was a facility-wide effort to investigate 28 underground storage tank (UST) sites at CSLO. The USTs at Old Field Maintenance Shop (FMS) 19, Building 1328, were among those investigated. One UST at Building 1328 was associated with the former boiler room and was used to store heating oil.

In 1995, three monitoring wells were installed to monitor groundwater in the vicinity of the heating oil UST at the former FMS #19. As part of the initial investigation, three soil borings were collected. Results from the initial investigation showed multiple detections of total petroleum hydrocarbons (TPH) as diesel (TPH-D) and gasoline (TPH-G) at 1,100 parts per million (ppm) in soil. These readings were above the regulatory cleanup level of 100 ppm in soil. Although San Luis Obispo County closed the UST site based on sampling results, the Central Coast Regional Water Quality Control Board (CCRWQCB) did not concur with this closure based on the concentrations and multiple detections of heating oil in the soil. CCRWQCB identified the need for additional sampling to determine the current groundwater conditions.

Groundwater monitoring was conducted between 1995 and 1997 by contractor Geosystem. TPH-D was detected in groundwater at 1.6 ppm which exceeded the California Code of Regulations, Water Code regulatory level of 1 ppm. Oxygen-releasing compounds and a nutrient solution were introduced into the wells in 1997 to promote bioremediation. This was followed by a 10-year period of no site work. In 2008, the wells were re-developed and sampled for the next four quarters. The monitoring wells were last sampled in March 2009 by contractor American Integrated Services (AIS). At that time, concentrations in all three monitoring wells were non-detect for TPH-G and less than 1 ppm for TPH-D.

After four quarters of groundwater sampling were completed, a final report recommending site closure was submitted to the regulator in June 2009. The request for site closure was based on consistently low concentrations of dissolved TPH at the site (less than 1 milligrams/Liter (mg/L)) and evidence that natural attenuation of TPH was occurring. However, the regulator did not approve the closure request and

instead required that a soil/subsurface investigation be conducted to gather more information on the extent of contamination.

A soil/subsurface investigation was completed in March 2012 to assess impacted soils in the vicinity of the tank. Angled soil borings in the vicinity of the UST did not intercept the tank, however, the tank fill port was encountered at a depth of 5 feet, indicating the tank was likely closed (filled in with grout) in place. Soil borings down to 26 feet below grade in the vicinity of the UST showed concentrations of TPH-D ranging from ND to 1100 milligrams/kilograms (mg/kg) in SB-2 at a depth of 5 feet, and concentrations of TPH-G ranging from ND to 44 mg/kg in SB-2 at a depth of 26 feet. The investigation showed soil around the UST is impacted.

Removal of the UST or what remains of it was not considered because of its close proximity to the Old FMS building and the potential to affect the building's foundation. CCRWQCB authorized the closure of site monitoring wells in April 2013. Three monitoring wells were properly abandoned in May 2013. A well closure report was submitted to CCRWQCB and SLO County in June 2013.

The regulator required land use controls (LUCs) prior to approving the request for site closure. During July and August 2013, LUCs were reviewed and finalized by CAARNG and submitted to CCRWQCB. Land use controls were approved by CCRWQCB in September 2013 and CAARNG added this document to the base master plan. To support the LUCs, two signs were posted at the site to provide a permanent, visible notice that no intrusive work (digging) can be done in the site area.

**Restoration/Cleanup Strategy:** The paved site surface is worn, but the area is not heavily trafficked by vehicles, and should remain intact. CSLO Department of Public Works has no plans to re-pave the site area in the next few years. The site paving must remain in good condition to prevent infiltration of water. Five-year reviews will continue under the Long Term Management (LTM) phase.

# CAMP SAN LUIS OBISPO

## INSTALLATION RESTORATION PROGRAM SITES

# CA2020-02-P\_CAMP SAN LUIS OBISPO PFAS CONTAMINATION

**HQAES ID:** 2939A.1004

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 9/15/2033

**RC Date:** 9/15/2033

**RC Reason:** Not assigned

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	8/11/2017	12/21/2020
<b>SI</b>	12/6/2019	09/15/2023
<b>RI/FS</b>	09/15/2026	09/15/2033
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	--	--
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

## Site Narrative

A Preliminary Assessment (PA) was completed for per-and polyfluoroalkyl substances (PFAS) at the California Army National Guard (CA ARNG) Camp San Luis Obispo (Camp SLO) in San Luis Obispo County, California, to assess potential PFAS release areas and exposure pathways to receptors. Five areas of interest (AOIs) were Identified as potential PFAS releases at Camp SLO during the PA. Based on documented potential PFAS releases at these AOIs, there is potential for exposure to PFAS contamination in surface soil to all receptors via ingestion and inhalation, subsurface soil to site and construction workers via inhalation; and, surface water, sediment, and groundwater to construction workers, farm workers and downstream residents via ingestion. A Draft Final Site Inspection (SI) was completed at the site. Based on the results of the SI, at AOI1, for groundwater, perfluorooctanoic acid (PFOA) exceeded the screening level (SL) with a maximum concentration of 291 nanograms/L (ng/L); perfluorooctane sulfonate (PFOS) exceeded the SL with a maximum concentration of 182 ng/L; perfluorohexane sulfonate (PFHxS) exceeded the SL with a maximum concentration of 908 ng/L; and perfluorononanoic acid (PFNA) exceeded the SL with a maximum concentration of 69.9 ng/L. PFOS in surface soil exceeded the SL of 13 micrograms/kilograms (ug/kg) with a concentration of 71.9 J ug/kg. At AOI2, PFOS in groundwater exceeded the SL of 4 ng/L with a concentration of 6.12 ng/L. Further evaluation is warranted at AOI1 and AOI2.

The subject site was tracked as 2939A.1003 under the Compliance-related Cleanup (CC) program. In June 2022, this site was determined to be eligible for the Defense Environmental Restoration Program (DERP).

**Restoration/Cleanup Strategy:** A Remedial Investigation (RI)/Feasibility Study (FS) will be completed at this site. Once the RI/FS is completed, future actions will be evaluated.

## SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2939A.1003	CCCA2020-02-P_CAMP SAN LUIS OBISPO PFAS CONTAMINATION	4/24/2023	CC

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	TBD
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Additional Community Involvement:</b>	Community Involvement Plan, Administrative Record and Information Repository will be developed as the project progresses.
<b>Administrative Record is located at:</b>	TBD
<b>Information Repository is located at:</b>	TBD
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A



# FIVE-YEAR / PERIODIC REVIEW SUMMARY

## Review Summary Table

Status	Start Date	End Date	End FY
UNDERWAY	09/15/2022	03/15/2023	2023

## ROD/DDs associated with the last Five-Year/Periodic Review

None

## Results, Actions & Plans

None



## LAND USE CONTROLS (LUC) SUMMARY

None

# **STOCKTON ARMORY**

## **Army Cleanup Program**

### **Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
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CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
PA	Preliminary Assessment
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
UST	Underground Storage Tank
WBS	Work Breakdown Structure

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
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.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2944A.1001	CCCAG05011_Stockton FMS UST	



# STOCKTON ARMORY

## COMPLIANCE CLEANUP SITES

## CCCAG05011\_Stockton FMS UST

**HQAES ID:** 2944A.1001

**Alias:** None

**Regulatory Driver:** Clean Water Act

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 10/31/2013

**RC Date:** 3/31/2054

**RC Reason:** Not assigned

**Program:** Compliance Cleanup

**Subprogram:** CC

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	3/31/2000	5/31/2000
<b>SI</b>	5/31/2003	9/30/2004
<b>RI/FS</b>	8/31/2005	7/31/2010
<b>IRA</b>	10/31/2012	6/30/2013
<b>RD</b>	--	--
<b>RA(C)</b>	6/30/2011	9/30/2013
<b>RA(O)</b>	10/31/2013	3/31/2054
<b>LTM</b>	--	--

### Site Narrative

The site is located on a compound with an Army Aviation Support Facility (AASF), a Combined Support Maintenance Shop (CSMS) and a Field Maintenance Shop (FMS) adjacent to each other. Historical military use extends back to WWII (World War II) as an Army Air Corps auxiliary field.

In May 1996, a 5,000-gallon diesel underground storage tank (UST) and a 10,000-gallon gasoline UST were removed from the FMS. The FMS (former organization maintenance shop (OMS)) does not support maintenance or fuel operations and has been converted to an Armory. The UST removal confirmatory sampling detected high levels of Total Petroleum Hydrocarbons-diesel (TPH-D) at 12,000 parts per million (ppm) and TPH-G (gasoline) at 7,100 ppm, with contamination extending to a depth of 25 feet. High levels of benzene and xylene were also detected with xylene reaching 220 ppm. No additional remedial actions for soil were taken beyond the initial response of removing contaminated soil.

In May 2000, a Preliminary Assessment (PA)/Site Investigation (SI) was completed. During the 2000 SI work, TPH-J (jet fuel) contamination was found in shallow soil in the area of the former vehicle inspection rack, adjacent to the removed USTs. The concentration of TPH-J was 10,500 ppm at the south end of the inspection rack. A second PA/SI for the site was completed in July 2003.

Soil samples taken as part of a September 2004 PA/SI update report found much lower levels of TPH and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), with TPH-D having one result at 260 ppm. One sample at the inspection rack has a level of total petroleum hydrocarbons as oil at 100 ppm.

Groundwater samples in the area of the tanks show TPH-D at 8.5 ppm and TPH-J at 8.5 ppm. Depth to groundwater is 32-44 feet below ground surface (bgs).

A Field Sampling Plan was approved by the Central Valley Regional Water Quality Control Board (CVRWQCB) and was initiated in April 2007. Based on the elevated detections of hydrocarbons in soil,

STOCKTON ARMORY Installation Action Plan

soil gas, and groundwater, the contractor prepared a work plan addendum to perform additional investigative activities prior to preparing the SI report.

The final SI report was completed in December 2007, indicating high levels of TPH and volatile organic compound (VOCs) in groundwater and soil. Results from the May 2007 sampling event showed that for groundwater, TPH-G was as high as 450,000 parts per billion (ppb), benzene at 73,000 ppb and toluene at 45,000 ppb. Regulatory levels for these compounds are 5 ppb (Environmental Protection Agency), 1 ppb, and 150 ppb (California regional screening levels) respectively. Soil samples showed TPH-D at 8,000 ppm, TPH-G at 1,600 ppm and benzene at 5.5 ppm. No Preliminary Remediation Goals (PRGs) exist for TPH-D and TPH-G, but California typically applies a 100 ppm limit as its cleanup level in soil. The PRG for Benzene is 0.64 ppm. Remedial action was required at this site. The contractor also completed a sensitive receptor survey, collecting soil gas samples adjacent to the four structures near the former USTs, the results of which proved negative.

Well installation was included as part of the Remedial Investigation (RI)/Feasibility Study (FS) phase and funded in September 2009. The installation of five groundwater monitoring wells was completed in 2010 and all wells underwent one year of quarterly monitoring. Groundwater sampling helped delineate the extent of contamination in the vicinity of the site. However, additional site investigation was needed to determine the best remediation strategy.

A treatability study was funded in Fiscal Year (FY) 11 to determine what remediation method would work best. A pilot test for dual phase extraction (DPE) was conducted in May 2012, as well as a separate test for air sparge-soil vapor extraction (AS-SVE). Results of the pilot test showed that DPE was effective at removing TPH from groundwater and soil gas; however, the volume of wastewater generated by the system would be costly to dispose, if the system was operated for three years as forecasted. AS-SVE testing also demonstrated success at removing TPH from soil gas, and remained a viable option, summarized in the 2012 pilot test report. Quarterly groundwater monitoring events were also completed in 2011-2012.

In situ chemical oxidation (ISCO) was recommended as a more cost-effective remedial technology for the site in June 2012. FY12 funds were used to research and implement ISCO treatment of contaminant hot spots. This treatment was combined with further SI involving a membrane interface probe (MIP) technology to create a 3-dimensional map of subsurface layers to enable a more precise delineation of hot spots. A MIP-SI work plan was approved in January 2013, and 15 MIP borings were completed in February 2013. Four additional monitoring wells were installed in March and September 2013 to provide more groundwater sampling data, and to meet injection permit and chemical migration monitoring requirements. MIP data analysis produced a map identifying hot spot locations and depths.

Ten thousand gallons of chemical solution (Modified Fenton's reagent, oxidizer) were injected through 22 borings in the vicinity of the former USTs (source area) in September 2013. A second round of MIP-SI work and ISCO treatments was funded in FY13. Data from 15 more MIP borings was collected in February 2014, within and beyond the initially surveyed source area. A second round of ISCO injections was completed in July-August 2014, using approximately 7,000 gallons (55%) more reagent (Persulfox, oxidizing solution). The second round consisted of two injection events involving 36 injection borings.

Following the second round of ISCO treatments in 2014, TPH-D, TPH-G, and benzene concentrations in groundwater samples from three wells in the source (former UST) area were as high as 12,000 ppb, 18,000 ppb, and 9,300 ppb, respectively, based on the March 2015 quarterly monitoring event. The first

two years of ISCO treatments showed a trend of significantly reducing TPH-G and benzene levels within 60 days of the treatment. However, the concentrations rebounded six to nine months after the injections.

A higher amount of the more aggressive ISCO reagent oxygen releasing compound (ORC)-A was proposed for use in the next round of ISCO to promote faster degradation of TPH and benzene in the source area. Chemical injections were completed in July-August 2015. September 2015 groundwater monitoring data from source area wells showed TPH-G and benzene concentrations dropped to 2,800 ppb and 880 ppb, 45 days after the ISCO treatment. Groundwater monitoring data four months after the August 2015 ISCO injections showed TPH-G and benzene levels in the source area had rebounded to levels as high as 10,000 ppb and 1,900 ppb. TPH-G and benzene levels measured in subsequent quarterly groundwater monitoring events in March, June and Sep 2016 had increased but were generally lower than in the previous year, prior to the 2015 ISCO treatments. Additional ISCO treatment was planned for fall 2016.

In summer 2016 Vapor Energy Generator (VEG) steam injections and vapor extraction in the soil of the fuel contamination source area were conducted between Oct and Nov 2016 via six injection and six extraction wells in the source area (near monitoring well (MW)-5 and MW-6). Steam injection wells were screened between 15 and 25 feet; vapor extraction wells screened between 10 and 30 feet. Soil samples were collected at three depths between five and 25 feet from three soil borings in the source area and analyzed for fuel contaminants (TPH-G, TPH-D and naphthalene). Soil samples were collected before starting the VEG treatment and a week after it was completed. Post-VEG treatment soil samples showed up to 99% reduction in TPH-G, while TPH-D reductions varied between 38 and 98%. The steam injections and soil vapor extraction occurred during about 20 days over the course of six weeks.

Two weeks after the VEG system shutdown (Dec 2016), one round of ISCO injections was performed in the source area. Thirty-day post-ISCO groundwater sample analyses showed TPH-D had reduced to 2300 ppb in MW-5 and 20,000 ppb in MW-6 (source area wells). TPH-G had reduced to 1400 ppb in MW-5 and 6200 ppb in MW-6. Benzene levels had reduced to 140 ppb in MW-5 and 2200 ppb in MW-6. Additional post-ISCO groundwater monitoring data was collected at 90 and 180-days after the injections, as required by the State Water Board general order (permit) for chemical injections.

FY17 funds were also used to execute a soil vapor sampling contract. This work, involving sampling soil gas via four borings (one adjacent to three buildings next to the site, and one upgradient from the site) is expected to continue. The site work is a new requirement from the state regulator, identified in Dec 2016.

Under the state's low threat closure policy for USTs, California Army National Guard (CAARNG) must demonstrate sufficient reduction and downward trend of TPH-G and benzene levels in groundwater. Other factors include showing the plume is stable or decreasing. Site closure (no further action (NFA) determination) would be discussed with the state regulator when TPH-G and benzene levels in groundwater are reduced to levels below threshold criteria and we can show these concentrations remain stable or are declining for one year.

**Restoration/Cleanup Strategy:** Semi-annual groundwater monitoring will continue indefinitely. Groundwater will be analyzed for monitored natural attenuation parameters, as well as TPH and VOCs.

## **SITE CLOSEOUT SUMMARY**

None

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	N/A
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Additional Community Involvement:</b>	N/A
<b>Administrative Record is located at:</b>	N/A
<b>Information Repository is located at:</b>	N/A
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

## **FIVE-YEAR / PERIODIC REVIEW SUMMARY**

### **Review Summary Table**

None

### **ROD/DDs associated with the last Five-Year/Periodic Review**

None

### **Results, Actions & Plans**

None

## LAND USE CONTROLS (LUC) SUMMARY

None



# **FRESNO DAKOTA AVCRAD**

**Army Cleanup Program**

**Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AOI	Area of interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
NFA	No further action
PA	Preliminary Assessment
PFAS	Per-and polyfluoroalkyl substances
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TASMG	Theater Aviation Sustainment Maintenance Group

Acronym	Definition
UST	Underground Storage Tank
WBS	Work Breakdown Structure

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2898A.1001	CCCA2020-03-P_FRESNO TASMG PFAS CONTAMINATION	

# FRESNO DAKOTA AVCRAD

## COMPLIANCE CLEANUP SITES

# CCCA2020-03-P\_FRESNO TASMG PFAS CONTAMINATION

**HQAES ID:** 2898A.1001

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 11/30/2023

**RC Date:** 11/30/2023

**RC Reason:** Not assigned

**Program:** Compliance Cleanup

**Subprogram:** CC

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	8/11/2017	2/12/2020
<b>SI</b>	9/9/2019	11/30/2023
<b>RI/FS</b>	--	--
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	--	--
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

## Site Narrative

A Preliminary Assessment (PA) was completed for per-and polyfluoroalkyl substances (PFAS) at the California Army National Guard Fresno 1106th Theater Aviation Sustainment Maintenance Group (TASMG) in Fresno, California, to assess potential PFAS release areas and exposure pathways to receptors. Two areas of interest (AOIs) related to potential PFAS release were identified at Fresno TASMG during the PA. Based on information obtained during the PA at these AOIs, there is potential for exposure to PFAS contamination in media at or near the facility. Cleanup strategy: A Site Inspection (SI) is underway. The Draft SI recommends no further action (NFA) for all three AOIs. Site is expected to close following the SI phase.



## SITE CLOSEOUT SUMMARY

None

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
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<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

## **FIVE-YEAR / PERIODIC REVIEW SUMMARY**

### **Review Summary Table**

None

### **ROD/DDs associated with the last Five-Year/Periodic Review**

None

### **Results, Actions & Plans**

None

## LAND USE CONTROLS (LUC) SUMMARY

None

# **ROSEVILLE**

## **Army Cleanup Program**

### **Installation Action Plan**

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RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation

Acronym	Definition
SI	Site Inspection
SL	Screening level
UST	Underground Storage Tank
WBS	Work Breakdown Structure



## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2928A.1002	CA2020-04-P_ROSEVILLE ARMORY PFAS CONTAMINATION	

# ROSEVILLE

## INSTALLATION RESTORATION PROGRAM SITES

# CA2020-04-P\_ROSEVILLE ARMORY PFAS CONTAMINATION

**HQAES ID:** 2928A.1002

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 9/30/2029

**RC Date:** 9/30/2029

**RC Reason:** Not assigned

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	8/11/2017	1/7/2020
<b>SI</b>	5/10/2020	9/30/2023
<b>RI/FS</b>	9/30/2022	9/30/2029
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	--	--
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

## Site Narrative

A Preliminary Assessment (PA) was completed for per- and polyfluoroalkyl substances (PFAS) at the California Army National Guard Roseville Armory in Roseville, California, to assess potential PFAS release areas and exposure pathways to receptors. One area of interest (AOI) related to potential PFAS release was identified at Roseville Armory during the PA. Based on information obtained during the PA at AOI 1, there is potential for exposure to PFAS contamination in media at or near the facility. A site inspection (SI) was completed at the site. Based on the results of the SI, at AOI 1, perfluorooctanoic acid (PFOA) in groundwater at the Firetruck Parking and Storage Yard potential PFAS release area exceeded the screening level (SL) of 6 nanograms/liter (ng/L) with a maximum concentration of 538 ng/L. Based on the results of the SI, further evaluation of AOI 1 is warranted in a Remedial Investigation (RI).

The subject site was tracked as 2928A.1001 under the Compliance-related Cleanup (CC) program. In June 2022, this site was determined to be eligible for the Defense Environmental Restoration Program (DERP).

**Restoration/Cleanup Strategy:** A RI/Feasibility Study (FS) will be completed at this site. The RI was funded in Fiscal Year 2022 (FY22). FS costs will require future funding. Further actions cannot be determined until after the RI/FS is complete.

## SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2928A.1001	CCCA2020-04-P_ROSEVILLE ARMORY PFAS CONTAMINATION	6/17/2022	Compliance Cleanup

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	TBD
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Additional Community Involvement:</b>	Community Involvement Plan, Administrative Record and Information Repository will be developed as the project progresses.
<b>Administrative Record is located at:</b>	TBD
<b>Information Repository is located at:</b>	TBD
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

## **FIVE-YEAR / PERIODIC REVIEW SUMMARY**

### **Review Summary Table**

None

### **ROD/DDs associated with the last Five-Year/Periodic Review**

None

### **Results, Actions & Plans**

None

## LAND USE CONTROLS (LUC) SUMMARY

None



# **SACRAMENTO MATHER AFB AASF**

**Army Cleanup Program**

**Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
AASF	Army Aviation Support Facility
AEDB-R	Army Environmental Database - Restoration
AOI	Area of interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
Ng/L	Nanograms/Liter
PA	Preliminary Assessment
PFAS	Per-and polyfluoroalkyl substances
PFH <sub>x</sub> S	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation

Acronym	Definition
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening level
UST	Underground Storage Tank
WBS	Work Breakdown Structure

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2931A.1002	CA2020-05-P_NG SACRAMENTO MATHER PFAS CONTAMINATION	

# **SACRAMENTO MATHER AFB AASF**

**INSTALLATION RESTORATION PROGRAM SITES**

# CA2020-05-P\_NG SACRAMENTO MATHER PFAS CONTAMINATION

**HQAES ID:** 2931A.1002

**Alias:** None

**Regulatory Driver:** CERCLA

**RRSE:** Not assigned

**MRSP:** Not assigned

**RIP Date:** 4/30/2023

**RC Date:** 6/15/2030

**RC Reason:** Not assigned

**Program:** ENV Restoration, Army

**Subprogram:** IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
<b>PA</b>	8/11/2017	2/12/2020
<b>SI</b>	12/6/2019	9/15/2023
<b>RI/FS</b>	9/15/2026	9/15/2033
<b>RD</b>	--	--
<b>IRA</b>	--	--
<b>RA(C)</b>	--	--
<b>RA(O)</b>	--	--
<b>LTM</b>	--	--

## Site Narrative

A Preliminary Assessment (PA) was completed for per-and polyfluoroalkyl substances (PFAS) at the Mather Army Aviation Support Facility (AASF) in Mather, California, to assess potential PFAS release areas and exposure pathways to receptors. The current AASF is constructed on a parcel of land formerly part of Mather Air Force Base. Occupation of the property by California Army National Guard (CAARNG) began in 1985, and the licensing term was amended in 1994 to extend indefinitely. Two areas of interest (AOIs) related to potential PFAS release were identified at CAARNG's Mather AASF during the PA. Based on information obtained during the PA at these AOIs, there is potential for exposure to PFAS contamination in media at or near the facility. A Draft Site Inspection (SI) has been completed at this site. Based on the results of this SI, further evaluation is warranted in a Remedial Investigation (RI) for each of the five AOIs identified during the SI. At AOI 1: perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS) in groundwater exceeded their screening levels (SLs). PFOA exceeded its SL of 6 nanograms/Liter (ng/L), with a concentration of 11.4 ng/L. PFHxS exceeded its SL of 39 ng/L, with a concentration of 55.1 ng/L. At AOI 2: PFOA, perfluorooctane sulfonate (PFOS), and PFHxS in groundwater exceeded their SLs. PFOA exceeded its SL of 6 ng/L, with a maximum concentration of 123 ng/L. PFOS exceeded the SL of 4 ng/L, with a maximum concentration of 111 ng/L. PFHxS exceeded the SL of 39 ng/L, with a maximum concentration of 278 ng/L. At AOI 3: PFOA and PFHxS in groundwater exceeded their SLs. PFOA exceeded its SL of 6 ng/L, with a concentration of 10.6 ng/L. PFHxS exceeded its SL of 39 ng/L, with a concentration of 58.4 ng/L. At AOI 4: PFOA and PFHxS in groundwater exceeded their SLs. PFOA exceeded the SL of 6 ng/L, with a



maximum concentration of 9.91 ng/L in the field duplicate sample. PFHxS exceeded the SL of 39 ng/L, with a concentration of 66.7 ng/L in the field duplicate sample. At AOI 5: PFOA, PFOS, and PFHxS in groundwater exceeded their SLs. PFOA exceeded its SL of 6 ng/L, with a concentration of 134 ng/L. PFOS exceeded its SL of 4 ng/L, with a concentration of 45 ng/L. PFHxS exceeded its SL of 39 ng/L, with a concentration of 309 ng/L.

The subject site was tracked as 2931A.1001 under the Compliance Cleanup (CC) program. In Fiscal Year (FY) 23, this site was determined to be eligible under the Defense Environmental Restoration Program (DERP).

**Restoration/Cleanup Strategy:** An RI/Feasibility Study (FS) will be conducted at this site. Future actions will be evaluated at the completion of the RI/FS.

## SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2931A.1001	CCCA2020-05-P_NG SACRAMENTO MATHER PFAS CONTAMINATION	4/23/2023	Compliance Cleanup

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	TBD
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Additional Community Involvement:</b>	Community Involvement Plan, Administrative Record and Information Repository will be developed as the project progresses.
<b>Administrative Record is located at:</b>	TBD
<b>Information Repository is located at:</b>	TBD
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

## **FIVE-YEAR / PERIODIC REVIEW SUMMARY**

### **Review Summary Table**

None

### **ROD/DDs associated with the last Five-Year/Periodic Review**

None

### **Results, Actions & Plans**

None

## LAND USE CONTROLS (LUC) SUMMARY

None

# **STOCKTON AASF**

## **Army Cleanup Program**

### **Installation Action Plan**

2023

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## ACRONYMS

Acronym	Definition
AASF	Army Aviation Support Facility
AEDB-R	Army Environmental Database - Restoration
AOI	Area of interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
Ng/L	Nanograms/Liter
PA	Preliminary Assessment
PFAS	Per-and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place



Acronym	Definition
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening level
UST	Underground Storage Tank
WBS	Work Breakdown Structure

## PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

## SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2945A.1003	CA2020-06-P_STOCKTON AASF PFAS CONTAMINATION	

# STOCKTON AASF

## INSTALLATION RESTORATION PROGRAM SITES

# CA2020-06-P\_STOCKTON AASF PFAS CONTAMINATION

HQAES ID: 2945A.1003

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSP: Not assigned

RIP Date: 9/30/2029

RC Date: 9/30/2029

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

<i>Phases</i>	<i>Start</i>	<i>End</i>
PA	8/11/2017	1/7/2020
SI	12/6/2019	9/30/2023
RI/FS	9/30/2022	9/30/2029
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

## Site Narrative

A Preliminary Assessment (PA) was completed for per- and polyfluoroalkyl substances (PFAS) at the Stockton Army Aviation Support Facility (AASF) in Stockton, California (CA), to assess potential PFAS release areas and exposure pathways to receptors. Three areas of interest (AOIs) related to potential PFAS release were identified at Stockton AASF during the PA. Based on information obtained during the PA at these AOIs, there is potential for exposure to PFAS contamination in media at or near the facility. A site inspection (SI) was completed at the site. Based on the results of the SI, at AOI 3, perfluorooctanoic acid (PFOA) exceeded the screening level (SL) of 6 nanogram/liter (ng/L), with a concentration of 139 ng/L. Additionally, perfluorooctane sulfonate (PFOS) in groundwater exceeded the SL of 4 ng/L, with a concentration of 82.3 ng/L. Based on the results of the SI, further evaluation of AOI 3 is warranted in a Remedial Investigation (RI).

The subject site was tracked as 2945A.1002 under the Compliance-related Cleanup (CC) program. In June 2022, this site was determined to be eligible for the Defense Environmental Restoration Program (DERP).

**Restoration/Cleanup Strategy:** A RI/Feasibility Study (FS) will be completed at this site. The RI was funded in Fiscal Year 2022 (FY22). FS costs will require future funding. Further actions cannot be determined until after the RI/FS is complete.

## SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2945A.1001	CCCAG06011_Stockton AASF Site Investigation	10/31/2016	Compliance Cleanup
2945A.1002	CA2020-06-P_STOCKTON AASF PFAS CONTAMINATION	6/17/2022	Compliance Cleanup

## COMMUNITY INVOLVEMENT

<b>Technical Review Committee (TRC) Establishment Date:</b>	N/A
<b>Community Involvement Plan (Date Published):</b>	TBD
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Additional Community Involvement:</b>	Community Involvement Plan, Administrative Record and Information Repository will be developed as the project progresses.
<b>Administrative Record is located at:</b>	TBD
<b>Information Repository is located at:</b>	TBD
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A

## **FIVE-YEAR / PERIODIC REVIEW SUMMARY**

### **Review Summary Table**

None

### **ROD/DDs associated with the last Five-Year/Periodic Review**

None

### **Results, Actions & Plans**

None



## LAND USE CONTROLS (LUC) SUMMARY

None