

FORT HUNTER LIGGETT

Army Cleanup Program

Installation Action Plan Final

June 2024

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STATEMENT OF PURPOSE

The Installation Action Plan (IAP) provides evidence that the Army is firmly committed to expeditious identification and cleanup of environmental contamination, and that the installation has a credible, organized program to carry out that commitment. The IAP provides an outline of the total multi-year environmental cleanup program for each site with ongoing or future planned restoration activity and includes the (1) environmental restoration requirements, (2) the rationale for the selected technical approach, and (3) foundation to develop corresponding financial needs for each cleanup site.

INSTALLATION OVERVIEW

Installation Name: FORT HUNTER LIGGETT

Installation City: JOLON

Installation County: MONTEREY

Installation State: CALIFORNIA

Regulatory Participation - Federal: N/A

Regulatory Participation - State: California Regional Water Quality Control Board (CRWQCB) Central Coast Region

ACRONYMS

Acronym	Definition
AOPI	Area of Potential Interest
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Corrective Action Plan
CRWQCB	California Regional Water Quality Control Board
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
COC	Contaminant of Concern
CRL	Cleanup Restoration & Liabilities
DCE	Dichloroethene
DD	Decision Document
DDT	Dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
ENV	Environmental
FS	Feasibility Study
FYR	Five-Year Review
IAP	Installation Action Plan
IC	Institutional Control
ID	Identification
IR	Installation Restoration
IRA	Interim Remedial Action
ISCO	In-Situ Chemical Oxidation
LTM	Long-Term Management
LUC	Land Use Control
MCDOH	Monterey County Department of Health
MCL	Maximum Contaminant Levels
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
NA	Natural Attenuation
NFA	No Further Action
NPL	National Priorities List
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFBS	Perfluorobutanesulfonic Acid
PFOA	Perfluorooctanoic Acid

Acronym	Definition
PFOS	Perfluorooctane Sulfonate
POL	Petroleum, Oil and Lubricants
PR	Periodic Review
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
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WQMP	Water Quality Management Plan

PHASE TRANSLATION TABLE

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

PROGRAM SUMMARY

Number of Open Sites with Response Complete/Total Open IR Sites: 5/6

Number of Open Sites with Response Complete/Total Open MR Sites: 0/0

Number of Open Sites with Response Complete/Total Open CC Sites: 0/0

SITE-LEVEL INFORMATION

2192A.1001_FTHE-01_LANDFILL #1

Env Site ID: FTHE-01

Cleanup Site: LANDFILL #1

Alias: FTHE-01

Regulatory Driver: CWA

RIP Date: 8/15/2002

RC Date: 8/15/2002

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/16/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	12/15/1983	12/15/1986
SI:	12/15/1983	12/15/1986
RI/FS:	12/15/1990	6/15/2002
RD:	--	--
IRA:	6/15/1999	8/15/2002
RA(C):	11/15/2001	8/15/2002
RA(O):	--	--
LTM:	9/15/2002	9/15/2054

Site Narrative: Fort Hunter Liggett site FTHE-01 is referred to as Landfill #1 site 2192A.1001. The site covers approximately 40 acres and comprises 14 unlined cells without a leachate collection and removal system. The landfill began receiving nonhazardous type waste in 1956 and ceased operations in June 1987, when the landfill reached capacity of 367,000 cubic yards of waste. No records exist that describe the nature and quantities of wastes disposed on the landfill. The closed landfill was capped as a Class III landfill between September 2000 and 2002. A surface containment cell was constructed within the boundaries of the landfill and filled with petroleum, oil and lubricants (POL) and pesticide contaminated soils (nonhazardous) from other Fort Hunter Liggett sites. This soil was used as part of the foundation layer (below the impermeable liner) of this landfill's cap. Contaminants of concern (COC) at FTHE-01 are POL and volatile organic compounds (VOC) in the groundwater. Under the Installation Restoration Program, an investigation was conducted to determine if there had been a release from the landfill. Exposure to landfill materials and potential soil contamination was addressed through design and construction of a landfill cap to minimize infiltration of water through waste in the landfill. The 1990 Closure and Post-closure Plan included a landfill cover design which was approved by California Regional Water Quality Control Board (CRWQCB). The design received conditional approval in 1996. An updated design was submitted to the CRWQCB in April 1998 and received regulatory approval in May 1998. Fort Hunter Liggett received a notice of violation in 1995, which required improvement of the groundwater monitoring program by installing additional downgradient wells. In February 1996 seven new monitoring wells downgradient to the landfill were installed. A 1993-1994 refuse limits investigation uncovered approximately 500 crushed 55-gallon drums near the southern perimeter of the landfill. The drums were removed in 1997 and groundwater samples were collected from the bottom of three excavations. The groundwater had not been impacted and regulatory closure was received for the excavated areas. In 1996, a remedial investigation (RI) detected contaminated groundwater that contained cis-1,2-dichloroethene (DCE), trans-1,2-DCE, and trichloroethylene (TCE) above maximum contaminant levels (MCL) at one newly installed downgradient point-of-compliance well. When the 1996 Addendum

to the Closure and Post-closure plan was approved, Cell 7 was a suspected source of TCE contamination of the groundwater downgradient of the landfill. In 1998, hydro punch borings were drilled and sampled. Three monitoring wells were installed and incorporated into the water quality management plan (WQMP) after sampling results indicated contamination. In September 1999, a feasibility study (FS) was submitted to the CRWQCB that proposed the use of in situ enhanced natural attenuation (NA) to remediate groundwater contamination downgradient of the landfill. The FS proposal for the use of enhanced NA was approved in October 2000 and the first injection of hydrogen releasing compound in the subsurface was conducted in November 2000. A second injection was performed in February 2002. Concentrations of TCE have not been detected above the MCL in the farthest downgradient well since October 1998, indicating the VOC plume does not extend to the nearby San Antonio River. The closed landfill is regulated under state landfill closure requirements and Order No. R3-2004- 0006 General Waste Discharge Requirements for Post-closure Maintenance of Closed, Abandoned, or Inactive Non-hazardous Landfills within the Central Coast Region, dated Oct. 10, 1994, issued by the CRWQCB. Landfill monitoring will continue as required under state regulations to include sampling and analysis of groundwater and landfill gas monitoring. The closure plan requires semiannual inspections of the landfill cap and a landfill cover settlement analysis every five years. Long-term management began in 2002 and includes semiannual and annual groundwater monitoring (frequency varies by monitor well location), semiannual and annual soil gas monitoring (frequency varies by sampling location), semiannual landfill inspections, and a landfill cover settlement analysis every five years. Cleanup Exit Strategy - Periodic reviews are conducted to ensure that the selected remedy remains protective of human health and the environment due to remaining contamination which does not allow for unlimited use and unrestricted exposure at the site. FTHE-01 has remaining residual low-level contamination. As such, current and future land use for the site is non-irrigated open space. Land use controls (LUC) at FTHE-01/2192A.1001 are enforced through semiannual landfill cap inspections and periodic reviews. The inspecting organization is the installation via US Army Environmental Command contract.

2192A.1011_FTHE-16_FORMER PESTICIDE STORAGE (BLDG.)

Env Site ID: FTHE-16

Cleanup Site: FORMER PESTICIDE STORAGE (BLDG.)

Alias: FTHE-16

Regulatory Driver: CERCLA

RIP Date: 9/30/2002

RC Date: 9/30/2002

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	1/31/1988	3/31/1994
SI:	1/31/1991	6/30/1994
RI/FS:	9/30/1997	9/30/2002
RD:	--	--
IRA:	10/31/1998	9/30/2000
RA(C):	9/30/2002	9/30/2002
RA(O):	--	--
LTM:	8/31/2019	9/30/2054

Site Narrative: Fort Hunter Liggett site FTHE-16 is referred to as the Former Pesticide Storage (Pesticide Mixing Area Facility) site 2192A.1011. The site is located at Infantry and Sulphur Springs Roads adjacent to Sulphur Springs Creek. The site included a metal quonset-type storage building (Building 157) with a bermed concrete floor, a 300-gallon aboveground storage tank that stored kerosene or mixtures of pesticides, an equipment storage shed, a concrete washrack and sump, a former pesticide control building (IH-23), and an area of bare soil that was historically used as a pesticide mixing area. Reportedly more than two dozen different pesticides may have been mixed at the site. During a 1994 visual site inspection, an area of bare soil adjacent to the washrack and sump appeared disturbed. The visual site inspection identified two areas where vegetation may have been adversely impacted by past operations. An area to the west-northwest of the washrack and sump appeared to be defoliated nearly to the bank of Sulphur Springs Creek, located along the northwest boundary of the site and at the southwest corner of the site in an eroded, channelized area. The eroded drainage ditch directed surface water runoff from the bare soil area toward Sulphur Springs Creek. COCs at FTHE-16 are pesticides and total petroleum hydrocarbons (TPH) in soil. A 1991 soil investigation identified elevated concentrations of pesticides at FTHE-16 and the soil was reportedly excavated. A follow-up investigation in 1997 sought to verify the removal of contaminated soil and to address any downgradient (ditch, creek, and wash rack/sump) soil contamination. Additional contaminated soil was discovered, and an emergency interim removal action (IRA) occurred in 1998. An FS was conducted in February 2002 to address residual contamination left after the 1998 emergency soil excavation. The remedy selected in the FS included soil excavation and disposal at three areas (the bare soil area, drainage ditch, and creek embankment) where dieldrin, total dichlorodiphenyltrichloroethane (DDT), and/or extractable TPH exceeded preliminary remediation goals or the Monterey County Department of Health (MCDOH) total TPH cleanup level. In August 2002, the Army excavated 365 cubic yards of contaminated soil from FTHE-16 for off-site disposal. Excavation continued until either confirmation samples were below the cleanup levels or access restrictions, physical obstructions, or safety concerns prevented further excavation. The excavated area was

backfilled with clean soil and paved over with asphalt to preclude direct contact with soil by receptors and prevent runoff to the stream area. A 2003 preliminary assessment (PA)/site inspection (SI) addressing numerous Fort Hunter Liggett sites to determine no further action (NFA) included a discussion on the preparation of the FS for the Former Pesticide Storage. The PA/SI documented that the emergency removal action occurred in accordance with the 2002 Army-approved decision document (DD) and recommended NFA for soils at the bare soil area of the site. It was recommended that an industrial LUC be adopted in Fort Hunter Liggett's Master Plan for the bare soil area of the site. In Department of Toxic Substances Control (DTSC) comments on the PA/SI, DTSC concurred that NFA is required for soils conditional on the implementation of a land use covenant or its equivalent. DTSC also requested that the institutional control (IC) be included in the Fort Hunter Liggett Master Plan. The PA/SI also recommended further investigation of the creek embankment, eroded drainage ditch, and sediment within the creek bed of Sulphur Springs Creek be conducted. FTHE-16 is located in the Hacienda Heights District in the Fort Hunter Liggett Master Plan, which includes housing, parks, and mixed-use buildings; however, the site is located in a set aside area for the flood plain and the current Fort Hunter Liggett Master Plan shows no activity. Cleanup Exit Strategy - It is anticipated that future land use will remain the same. LUCs will continue to be enforced through notations in the Fort Hunter Liggett Master Plan. Based on available information, the recommended response alternatives include the following initiatives- restrict land use - no residential use (industrial use only) and notations in the Master Plan. The site is paved which functions as a type of engineering control. No additional LUCs have been identified and as such are not anticipated.

2192A.1016_FT HE-24_FIRE DRILL PIT #2 (ABANDONED BUR

Env Site ID: FTHE-24

Cleanup Site: FIRE DRILL PIT #2 (ABANDONED BUR

Alias: FTHE-24

Regulatory Driver: CERCLA

RIP Date: 9/30/2000

RC Date: 9/30/2000

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	1/31/1988	3/31/1994
SI:	1/31/1988	6/30/1994
RI/FS:	1/31/1992	6/30/1994
RD:	--	--
IRA:	--	--
RA(C):	8/31/2000	9/30/2000
RA(O):	--	--
LTM:	8/31/2019	9/30/2054

Site Narrative: Fort Hunter Liggett site FTHE-24 is referred to as Fire Drill Pit #2 (Abandoned Burn Pit) site 2192A.1016. FTHE-24 comprises an abandoned burn pit located southeast of Del Venturi Road about 900 feet east of the San Antonio River. The site included the burn pit, water tower tank, fuel tower tank, product conveyance lines, and fire drill tank. The burn pit was a barren, level, circular area approximately 60 feet in diameter. The site is roughly level, sparsely vegetated, and surrounded by grassland. In the vicinity of FTHE-24, there are two cultural resources recorded with the State Historical Preservation Office, a historic dump and dense prehistoric chert flake scatter from the Mission system of irrigation ditches. The boundary of the historic dump lies approximately 50 meters southwest of the burn pit, and traces of the ditch system pass through the northeastern portion of the burn pit. The site operated as a fire training area from the late 1940s to 1976 when it was abandoned. During training exercises, personnel flooded the burn pit with water, covered it with fuel, ignited the fuel, and extinguished the fire. An aboveground storage tank stored fuels and delivered fuel through underground piping that ran to the center of the pit and to an aboveground fire drill tank, east of the pit. The pit was reportedly lined by mixing bentonite and concrete with surface soil in the 1960s. COC at FTHE-24 are TPH in the groundwater. The aboveground fuel and fire drill tanks and all associated piping were removed in 1994 along with much of the lining. Surface and near surface soil contained TPH in concentrations exceeding MCDOH screening levels. Low concentrations of TPH have been inconsistently detected in groundwater beneath the burn pit. In 1994, a remedial action at FTHE-24 included excavation of approximately 300 cubic yards of contaminated soil down to 10 feet below ground surface (bgs) at the burn pit to address the elevated hydrocarbon contamination. The excavated soil was used during a pilot treatability study for low temperature thermal desorption remediation. Confirmation samples collected from the excavation pit showed that with one exception, soil containing TPH at concentrations greater than the MCDOH action level was removed. The exception was a single sample collected at one foot bgs at the southwest perimeter of FTHE-24 that contained TPH at concentrations that exceeded regulatory action levels. Following the 1994 excavation activities, in 1995, the DTSC requested surface samples surrounding the

excavation be analyzed for dioxin and furans. Results showed dioxins and furans present above the US Environmental Protection Agency's residential preliminary remediation goals. DTSC did not consider the site eligible for NFA as dioxin concentrations in the four grab samples being above unrestricted land use levels; and requested additional action. Further soil excavation in the areas of elevated dioxins was not possible because of the two nearby cultural resources sites. In 1997, California Regional Water Quality Control Board and the DTSC accepted Fort Hunter Liggett's proposed NFA provided the area was subject to LUCs. In May 2002, a Final FS for FTHE-24 evaluated remedial options for dioxin containing soil. The FS selected LUCs as the preferred remedial alternative. DTSC concurred and required that a provision be placed in Fort Hunter Liggett's Master Plan stating the area is subject to land use restrictions precluding the possibility of residential use in the future. These provisions have not yet been added to the Fort Hunter Liggett Master Plan. FTHE-24 has remaining residual low-level contamination. As such, current and future land use for the site is limited to industrial land use only (no residential use). Cleanup Exit Strategy - LUCs will continue to be enforced through notations in the Fort Hunter Liggett Master Plan. Environmental investigations have determined that former site activities have impacted FTHE-24. Based on available information, the recommended response alternatives include the following initiatives- restrict land use - no residential use (industrial use only), media specific – no land disturbance (digging) in areas with remaining contamination, and notations in Master Plan. No engineering controls are in place at the site. No additional LUCs have been identified and as such are not anticipated.

2192A.1023_FT HE-28_BLDG 194 - OLD POL FACILITY

Env Site ID: FTHE-28

Cleanup Site: BLDG 194 - OLD POL FACILITY

Alias: FTHE-28

Regulatory Driver: CWA

RIP Date: 12/15/2012

RC Date: 11/22/2016

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	1/15/1988	3/15/1994
SI:	1/15/1988	6/15/1994
RI/FS:	1/15/1992	9/15/2002
RD:	- -	- -
IRA:	1/15/1992	9/15/2000
RA(C):	11/15/2001	12/15/2012
RA(O):	11/15/2002	11/22/2016
LTM:	11/22/2016	9/30/2054

Site Narrative: Fort Hunter Liggett site FTHE-28 is referred to as Building 194, Old POL Facility site 2192A.1023. The site is located east of the Department of Engineering and Housing yard and covers an area of approximately 150 feet by 150 feet. In 1958, two 12,000-gallon underground storage tanks (UST) were installed at Building 194 and the area comprising the site was used for the storage and dispensing of gasoline and diesel fuel and for vehicle maintenance activities. In 1981, the discovery of a leak associated with one of the USTs resulted in the replacement of the leaking UST with a 12,000-gallon single-walled fiberglass UST, which was removed in 1995. Removal of the second 12,000-gallon UST occurred in 1992, at which time environmental contractors observed a strong hydrocarbon odor and staining in excavated soils. A 750-gallon waste oil UST at Facility 95, a former motor pool maintenance area, (site FTHE-19) was found to be leaking and due to comingled groundwater plumes, site FTHE-19 was combined with site FTHE-28. Facility 95 is located northwest and downhill of Building 194. The 750-gallon waste oil UST was installed in 1964 and was used to store waste oil collected during vehicle maintenance activities until April 1991 when removal of the tank occurred under the guidance of MCDOH. Confirmation samples collected during tank removal indicated the presence of TPH compounds associated with gasoline, diesel, oil, and grease. COCs at FTHE-28 are POL and VOCs in the groundwater and soil. The initial response at FTHE-28 consisted of the replacement of the leaking UST in 1981 and removal of tanks in 1991, 1992, and 1995. An RI began in 1994 to characterize soil and groundwater contamination. Groundwater investigations conducted in 1994 and 1995 indicated groundwater containing levels of benzene, toluene, ethylbenzene, and xylenes (BTEX) above MCLs. Detections of lead above its MCL was considered anomalous based on low concentrations of lead in samples collected during other sampling efforts. Groundwater investigations indicated a single hydrocarbon plume encompassed both Building 194 and Facility 95 areas. Three "hot spots", two near Building 194 and one near Facility 95, had soil concentrations exceeding regulatory limits as gasoline range organics and diesel range organics. In 1996, the Army developed and signed a DD prior to the completion of an RI/FS for an IRA. The IRA DD addressed surface exposure to contaminated soils to reduce the potential for dermal

contact, inhalation, and ingestion to potential receptors at the site. The IRA also provided reduction of contaminants and aimed to eliminate releases to the groundwater. No cleanup goals were presented in the IRA DD, but MCDOH preliminary remediation goals were identified. The remedy established by the IRA DD did not establish a remedy for the groundwater and intended for a permanent remedy to be established for the site in the FS and corrective action plan (CAP). The 1996 FS and 1997 CAP established a permanent soil and groundwater remedy for the site. The FS stated that for groundwater, the lower of the California and federal MCLs, will be used as cleanup levels for BTEX. The CAP identifies BTEX and 1,2-dichloroethane as the groundwater COCs and specified MCLs as the remedial action objectives. Remedial activities at the site have included soil excavation, and ground water treatment and monitoring. Fort Hunter Liggett requested a UST Low-Threat Level Closure, which was approved by the CRWQCB in a letter dated Nov. 22, 2016. The cleanup/exit strategy for FTHE-28 consists of long-term management including maintenance of implemented LUCs. Periodic reviews are conducted to ensure that the selected remedy remains protective of human health and the environment due to remaining contamination which does not allow for unlimited use and unrestricted exposure at the site. FTHE-28 is located in the Hacienda Heights District in the Fort Hunter Liggett Master Plan, which includes, housing, parks, and mixed-use buildings. It is anticipated that future land use will remain the same. LUCs are enforced through periodic reviews. The inspecting organization is Fort Hunter Liggett. Based on available information, the recommended response alternatives include the following initiatives (1) Media specific - Prohibit activities that results in contact with contaminated sediments, (2) Media specific restriction – Prohibit, or otherwise manage excavation, (3) Restrict land use - No growing vegetables, fruits, or any edible items in native soil for human consumption within known extent of contamination, and (4) Restrict land use - No use of groundwater as drinking water or irrigation source within known plume extent. ICs have been in place since 2016. The following ICs are included in the Fort Hunter Liggett Master Plan (1) The property owner shall notify the Water Board and Monterey County Health Department at least 60 days prior to any proposed activities that might disturb or involve subject groundwater potentially containing subject waste constituents. (2) No extraction, injection, sampling, incidental disturbance during soil excavation, or any other activity potentially or actually contacting, handling, disturbing, impacting or involving subject groundwater potentially containing subject waste constituents shall occur without approval of the Water Board. Approval by other agencies might also be necessary prior to commencing such activities. (3) The Water Board shall have reasonable right of entry and access to the site consistent with the purposes of these restrictions as deemed necessary by the Water Board to protect public health or safety, or the environment, and (4) If the Army intends to transfer ownership of the site it shall notify the Water Board of such intention at least 180 days prior to such transfer. No engineering controls are in place at the site. Cleanup Exit Strategy - The LUCs are functioning in accordance with the Low-Threat Case Closure Approval and are expected to be protective of human health and the environment. No new LUCs are anticipated. ICs have been in place since 2016.

2192A.1047_CCFHL001_UST CORRECTIVE ACTION, BLDG. 25

Env Site ID: CCFHL001

Cleanup Site: UST CORRECTIVE ACTION, BLDG. 25

Alias: FHL002S001

Regulatory Driver: CWA

RIP Date: 9/15/2013

RC Date: 11/12/2015

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	1/31/1999	2/28/1999
SI:	--	--
RI/FS:	10/31/1999	9/30/2001
RD:	--	--
IRA:	--	--
RA(C):	10/31/2002	9/15/2013
RA(O):	10/31/2006	11/12/2015
LTM:	11/12/2015	9/30/2054

Site Narrative: Fort Hunter Liggett site CCFHL001 is referred to as Building 258 UST Corrective Action site 2192A.1047. In 1989, Fort Hunter Liggett personnel reported a gasoline spill at Building 258 resulting from an apparent leak in underground piping due to the 1989 Loma Prieta earthquake. The resulting plume follows a narrow bedrock channel that widens as it approaches to within approximately a quarter of a mile from the San Antonio River, a tributary to the San Antonio Reservoir, a regional drinking water source. The site is currently used as a motor pool. COCs are benzene and free-product in the groundwater and soil. The initial response was to repair the UST system then characterize the extent of contamination. In November 1989, a removal action excavated approximately 1,100 cubic yards of soil to a depth of 22. Confirmation sampling showed concentrations of total petroleum hydrocarbons gasoline range organics and benzene exceeding regulatory limits in soils. The site's four USTs were removed in 1998 and the remaining contaminated soil was excavated and disposed off-site. The MCDOH approved closure of the site following the removal action. Following the UST removals, investigations conducted in 2000, 2002, and 2003 to 2008 evaluated the presence and extent of petroleum hydrocarbons in groundwater. Results showed free-product was present in wells immediately downgradient of the former USTs and product lines. From 2005 to 2006, free-product was removed using a hydraulic skimmer. A 2006 In Situ Chemical Oxidation (ISCO) pilot study determined ISCO effectively reduced groundwater hydrocarbon concentrations in the source and mid plume areas. A soil vapor extraction system operated between November 2009 and April 2011. The remedial design was completed for the site in September 2012 with regulatory approval in 2013. In September 2013, the remedy-in-place of "primary source area excavation" was implemented and consisted of auger excavation, and off-site treatment of contaminated soil, addition of oxygen-releasing amendments in the excavation, installation of new monitoring wells, and quarterly groundwater analysis. From March 30 through July 25, 2013, 6,700 cubic yards of gasoline contaminated soil were excavated from the source area. On Nov. 12, 2015, the site was closed under the California Regional Water Quality Control Board's Low Threat Underground Storage Tank Closure Policy. No monitoring activities have been conducted since site closure and all project monitoring wells and

piezometers have been removed. The cleanup/exit strategy consists of long-term management including maintenance of implemented LUCs. CCFHL001 is located within the Mission Valley District of the Fort Hunter Liggett Master Plan and is zoned for industrial (or military) use. LUCs are enforced through periodic reviews. The inspecting organization is Fort Hunter Liggett. Based on available information, the recommended response alternatives include the following initiatives (1) Media specific - Prohibit activities that results in contact with contaminated sediments, (2) Media specific restriction – Prohibit, or otherwise manage excavation, (3) Restrict land use - No growing vegetables, fruits, or any edible items in native soil for human consumption within known extent of contamination, and (4) Restrict land use - No use of groundwater as drinking water or irrigation source within known plume extent. ICs have been in place since 2015. The following ICs are included in the Fort Hunter Liggett Master Plan (1) The property owner shall notify the Water Board and Monterey County Health Department at least 60 days prior to any proposed activities that might disturb or involve subject groundwater potentially containing subject waste constituents. (2) No extraction, injection, sampling, incidental disturbance during soil excavation, or any other activity potentially or actually contacting, handling, disturbing, impacting or involving subject groundwater potentially containing subject waste constituents shall occur without approval of the Water Board. Approval by other agencies might also be necessary prior to commencing such activities. (3) The Water Board shall have reasonable right of entry and access to the site consistent with the purposes of these restrictions as deemed necessary by the Water Board to protect public health or safety, or the environment, and (4) If the Army intends to transfer ownership of the site it shall notify the Water Board of such intention at least 180 days prior to such transfer. No engineering controls are in place at the site. Cleanup Exit Strategy - The LUCs are functioning in accordance with the Low-Threat Case Closure Approval and are expected to be protective of human health and the environment. No new LUCs are anticipated.

2192A.1048_FTBE-PFAS_PFAS

Env Site ID: FTBE-PFAS

Cleanup Site: PFAS

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/31/2028

RC Date: 12/31/2028

RC Reason: Not assigned

SC Date: 12/31/2028

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	9/30/2017	5/20/2018
SI:	5/21/2018	6/30/2022
RI/FS:	3/1/2021	12/31/2028
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: Historical releases of per- and polyfluoroalkyl substances (PFAS) (i.e., perfluorobutanesulfonic acid (PFBS), perfluorooctane sulfonate (PFOS), and perfluorooctanoic acid (PFOA), and other PFAS) into the environment have resulted from Department of Defense activities at Fort Hunter Liggett. Per direction from Deputy Chief of Staff G-9, the site was created to account for all PFAS sites at the installation. The Fort Hunter Liggett PA identified 13 areas of potential interest (AOPI). The SI recommended eight of 13 AOPIs for further study under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 remedial action phase; analytical results indicate PFAS concentrations at the eight AOPIs exceed the Office of Secretary of Defense risk-based screening levels for PFAS in soil and/or groundwater. The PFAS SI was completed in two phases; Phase I was completed in June 2019; and Phase II was completed in September 2021. A contract for RI was awarded, and the kick-off meeting was held on Oct. 22, 2020. PFAS RI field work is in progress.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
2192A.1002	FTHE-02_BATTERY ACID NEUTRALIZATION PIT(6/15/1999
2192A.1003	FTHE-03_FIRE DRILL PIT #1 (EXISTING BURN	9/30/2000
2192A.1004	FTHE-04_FORMER PHOTO LAB SUMP (BLDG. 186	6/30/1998
2192A.1005	FTHE-05_FORMER X-RAY LAB (BLDG 105)	1/31/1990
2192A.1006	FTHE-06_WASTE WATER LAB	3/31/1994
2192A.1007	FTHE-07_CROCKER RANGE	3/31/1994
2192A.1008	FTHE-08_ALPHA RANGE	3/31/1994
2192A.1009	FTHE-09_BRAVO RANGE	3/31/1994
2192A.1010	FTHE-10_RANGE B-9 (TANK RANGE -MPRC)	3/31/1994
2192A.1012	FTHE-17_FORMER SEWAGE TREATMENT PLANT	6/30/1998
2192A.1013	FTHE-19_FORMER UST SITE(FORMER DOL MP/FA	1/31/1991
2192A.1014	FTHE-20_BLDG 290 FORMER HAZ WASTE STORAG	9/30/2000
2192A.1015	FTHE-23_MILLER RANCH BLDG T-624-UST	3/31/1994
2192A.1017	FTHE-25_BLDG 290 WASTE OIL SUMP	4/30/1996
2192A.1018	FTHE-26_BLDG 122 - OLD PX FACILITY (FORM	9/30/2000
2192A.1019	FTHE-27A_FORMER CDEC 8J HAZ WASTE ACCUM	6/30/1999
2192A.1020	FTHE-27B_FORMER CDEC 8J WASTE OIL TANK S	9/30/2000
2192A.1021	FTHE-27C_CDEC 8J AREA 1 TANK PARKING	11/30/1994
2192A.1022	FTHE-27D_CDEC 8J AREA 3	10/31/1994
2192A.1024	FTHE-29_EXP 52/57 FORMER UST SITE	9/30/2000
2192A.1025	FTHE-30_AMMUNITION CRATE BURN AREA	9/30/1997
2192A.1026	FTHE-31_DEH FORMER CONTAMINATED SOIL PIL	3/31/1994
2192A.1027	FTHE-32_MILLER RANCH CONTAMINATED SOIL P	12/31/1997
2192A.1028	FTHE-33_FORMER DOL HAZ WASTE ACCUM AREA	6/30/1998
2192A.1029	FTHE-34_FORMER WV MAINTEN HAZ ACCUM AREA	6/30/1999
2192A.1030	FTHE-35_FORMER ARMOR HAZ WASTE ACCUM ARE	9/30/1998
2192A.1031	FTHE-36_FORMER OPEN YARD HAZ WASTE ACCUM	6/30/1998
2192A.1032	FTHE-37_FORMER DOL HAZ WASTE ACCUM (HELI	9/30/1996
2192A.1033	FTHE-38_DEH FORMER TRANSFORMER STRG (BLD	6/30/1998
2192A.1034	FTHE-39_MILLER RANCH EVAP. POND & SUMP	7/31/1999
2192A.1035	FTHE-001-R-01_ARTILLERY RANGE	6/15/2012
2192A.1036	FTHE-002-R-01_ARTILLERY RANGE (TD) NO. 2	9/30/2008
2192A.1037	FTHE-003-R-01_MANEUVER AND BIVOUAC AREA	8/8/2003
2192A.1038	FTHE-004-R-01_PRACTICE BOMBING RANGE 1	9/30/2008
2192A.1039	FTHE-005-R-01_BOMBING RANGE 2 NORTH	9/30/2008
2192A.1040	FTHE-006-R-01_MANEUVER AREA	8/8/2003
2192A.1041	FTHE-007-R-01_TRAINING RANGE	8/8/2003
2192A.1042	FTHE-008-R-01_TANK FIRING RANGE 2	9/30/2008
2192A.1043	FTHE-009-R-01_ANTITANK RANGE	9/30/2008
2192A.1044	FTHE-010-R-01_BOMBING RANGE 3	8/8/2003
2192A.1045	FTHE-011-R-01_ARTILLERY RANGE (TD) NO. 1	9/30/2008
2192A.1046	FTHE-012-R-01_PRACTICE BOMBING RANGE 2	8/31/2003

COMMUNITY INVOLVEMENT

Community Involvement Plan (Date Last Reviewed):	7/15/2021
Technical Review Committee Establishment Date:	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Reasons for Not Establishing RAB:	No sufficient, sustained community interest in a RAB has been expressed by the community
RAB Date of Solicitation from Community:	4/5/2021
RAB Results of Solicitation:	The community has not expressed a sufficient, sustained interest in a RAB. After careful evaluation of the solicitation results, the commander determined that there is no need for a RAB at the installation.
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A
Administrative Record Location:	US Army Garrison, Fort Hunter Liggett Environmental Office, Building 243 Jolon
Information Repository Location:	San Antonio School Library 67550 Lockwood Jolon Road Lockwood, CA 93932; Monterey

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Planned	FYR	9/10/2024	9/10/2029	N/A	N/A	N/A
Completed	FYR	9/10/2019	9/10/2024	The remedy at FTHE-28 is protective of human health and the environment. Contaminated soils have been excavated and treated, contaminated groundwater has been treated and contaminant levels have decreased with no exposure to contaminated groundwater remain.	The remedy at CCFHL001 is protective of human health and the environment because contaminated soil has been excavated and treated, free-product removal has been conducted, groundwater contaminant levels have been decreased, there is no exposure to contamination.	The remedy at FTHE-01 currently protects human health and the environment because the landfill waste has been consolidated, the landfill cover improved, groundwater contaminants treated, levels reduced, and natural attenuation is occurring for Trichloroethylene.