

US Army Garrison Italy

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.

ACRONYMS

Acronym	Definition
ARLOC	Army Location
ARPAT	Agenzia Regionale per la Protezione Ambientale della Toscana
ARPAV	Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto
AS	Air Sparging
AST	Aboveground Storage Tank
BGS	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CC	Compliance-related Cleanup
CRL	Cleanup Restoration & Liabilities
CSC	Concentrazioni Soglia di Contaminazione
CSR	Concentrazioni Soglia di Rischio/Risk Threshold Concentration
CTC	Cost to Complete
D. Lgs	Legislative Decree
DD	Decision Document
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DODI	Department of Defense Instruction
DRMO	Defense Reutilization and Marketing Office
DUCS	Database of USAREUR Contaminated Sites
EBS	Environmental Baseline Study
FRA	Final Remedial Action
FS	Feasibility Study
FY	Fiscal Year
HN	Host Nation
HRS	Hazard Ranking Score
IAP	Installation Action Plan
IAW	In Accordance With
ID	Identification
IFGS	Environmental Final Governing Standards-Italy
IR	Installation Restoration
IRA	Interim Remedial Action
JP	Jet Propellant
LEC	Lead Environmental Component
LSMA	Livorno Supply and Maintenance Area

Acronym	Definition
LTM	Long-Term Management
m	meter
m ²	square meter
m ³	cubic meter
mg/kg	milligram per kilogram
MNA	Monitored Natural Attenuation
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
MTBE	Methyl Tertiary-Butyl Ether
NA	Not Applicable
NATO	North Atlantic Treaty Organization
NFA	No Further Action
NPL	National Priorities List
ORC	Oxygen Releasing Compound
P&T	Pump and Treat
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbon
POL	Petroleum, Oil, and Lubricants
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-in-Place
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SETAF	US Army Southern European Task Force
SI	Site Inspection
SIHS	Substantial Impact to Human Health and Safety
SVE	Soil Vapor Extraction
TBD	To Be Determined
TP	Trial Pit
TPH	Total Petroleum Hydrocarbons
ug/L	microgram per liter
USAG	US Army Garrison
UST	Underground Storage Tank
VOC	Volatile Organic Compound

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: 0/0

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

Number of Open Sites with Response Complete/Total Open CC Sites: 0/8

SITE-LEVEL INFORMATION

IT219 - Camp Darby

Installation Name: US Army Garrison Italy

Installation City: Pisa

5764A.1006_CCPL117_IT219_Bldg 725 Diesel Spill

Env Site ID: CCPL117

Cleanup Site: IT219_Bldg 725 Diesel Spill

Alias: #

Regulatory Driver: DODI

RIP Date: 10/15/2027

RC Date: 10/15/2027

RC Reason: Not assigned

SC Date: 10/16/2027

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Not assigned

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	12/2/2019	2/15/2020
SI:	2/16/2020	10/15/2027
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: SITE LOCATION AND DESCRIPTION

1. Location- The site is located in the vicinity of Bldg 725 boiler room at Camp Darby (ARLOC IT219).
2. Physical Layout/Site Use- The site consists of the interior portions of the boiler room at Bldg 725 and the exterior portions located immediately adjacent. Surfaces include concrete, asphalt, and soil.

CONCEPTUAL SITE MODEL

1. Release Description- On December 2, 2019, approximately 1,300 Liters of diesel fuel was spilled near building with 300 liters captured and 1,000 liters released to the subsurface. The cause of the leak was due to faulty piping and a break in the fuel filter which allowed the fuel to flow freely for an extended period of time.
2. Media Impacted- Soil and potentially groundwater is contaminated with diesel fuel.
3. Nature and Extent of Contamination- Preliminary site investigations conducted in January 2020 showed exceedances of reference CSCs for Light Hydrocarbons C₇₋₁₂ and Heavy Hydrocarbons C_{>12} in surface soil and unsaturated deep soil. Light hydrocarbon concentrations were detected at a maximum concentration of 400 mg/kg exceeding the respective residential and industrial standards of 10 mg/kg and 250 mg/kg. Heavy hydrocarbon concentrations were detected at a maximum concentration of 15,000 mg/kg, exceeding the respective residential and industrial standards of 50 mg/kg and 750 mg/kg. The site investigation report completed in December 2022 found no widespread soil and groundwater contamination. None of the 25 soil samples collected showed concentrations of the analyzed parameters in excess of the D.Lgs. 152/06 threshold limits for commercial and industrial land use. The highest concentrations detected were below 0.21 mg/kg (vs. a threshold limit of 250 mg/kg) for Light HC and 88 mg/kg (vs. a threshold limit of 750 mg/kg) for Heavy. HC Naphthalene was detected at 0.0232 mg/kg (vs. a threshold limit of 100 mg/kg). Additionally, none of the 11 groundwater samples showed concentration of the analyzed parameters in excess of the Italian D.Lgs. 152/06 threshold limits for GW as the Total HC concentration detected in every sample was below 29 ug/l and Naphthalene was

detected always below 0.02 ug/l. The site investigation report completed in December 2023, presented the findings of the risk assessment and recommended additional groundwater monitoring. The depth to groundwater is located between 2.5 - 3.0 m bgs and flows from East to West.

4. Receptors- Future on site workers, ecological receptors, and groundwater are potential receptors.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- Demonstrate no significant risk from the diesel spill by conducting three years of monitoring under the SI phase.

2. Achievable Remedial Action Objective- May be determined at the conclusion of the SI.

3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.

4. Remediation Methods Planned or Being Conducted- None are planned at this time, but the results of the SI could change this. Three years of monitoring will be conducted under the SI phase to confirm initial SI results.

5. Response Complete- The RC will be dependent upon SI findings. At this point the RC is temporarily being set as the SI completion date.

6. Site Closure- The site will be closed after no significant risk can be demonstrated.

7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT) Pisa Department.

PHASE SCHEDULE

1. Current Phase Objective- The site characterization report was completed in October 2022 and a risk assessment was prepared in December 2023

2. Milestones- RIP (10/15/2027), RC (10/15/2027), Site Closeout (10/16/2027)

SCHEDULE & BUDGET CHANGES

1. Schedule- Three years were added to the RC, RIP, and SI end dates during the Spring 2024 datacall.

2. Budget- The CTC for this site in Spring 2024 is TBD.

HISTORICAL SITE ACTIVITIES

The spill was discovered on 2 December 2019 near Building 725 Boiler Room and immediate cleaning actions were put in place. A Spill Incident Report was prepared by the USAG Italy DMC and the IBC was notified. The cause of the leak was due to faulty piping and a break in the fuel filter which allowed the fuel to flow freely for an extended period of time. Approximately 1,300 liters of diesel fuel was spilled inside the heating room and outside it in front of the door on a paved area. Inside the containment basin of the heating room a sump was discovered. Approximately 300 liters of the spilled fuel was pumped out and collected into drums. The remaining fuel managed to seep in the ground below through the sump and a grounding rod manhole, located outside the heating room. In order to verify the extent of the potential contamination of environmental matrices, two excavations (one in the sump area inside the heating room and one in the grounding rod manhole) were performed for a first check of potential contamination. In the area inside the boiler room excavation went down to 1.9 meters. In the area directly outside the boiler room door excavation went down to 2.0 meters. A total of approximately 8.0 – 9.0 cubic yards of soil was excavated. No ground water was encountered, as the depth to groundwater is expected to be located 2.0 to 2.5 meters below ground level at the site. Seven soil samples were collected from each excavation and submitted for analysis of Hydrocarbons C<12, Hydrocarbons C>12, BTEX, and Polycyclic Aromatic Hydrocarbons. The analytical results for soil samples collected inside the boiler room show a number of exceedances. Light hydrocarbon concentrations ranged from 290 mg/kg

to 400 mg/kg, exceeding the regulatory limits of 10 mg/kg for residential and 250 mg/kg for industrial sites in 7 out of 7 samples. Heavy hydrocarbon concentrations ranged from 11,000 mg/kg to 15,000 mg/kg, exceeding the regulatory limits of 50 mg/kg for residential and 750 mg/kg for industrial sites in 7 out of 7 samples. The analytical results for soil samples collected outside the boiler room show a number of exceedances. Ethylbenzene concentrations exceeded the regulatory limits of 0.5 mg/kg for residential sites in 1 out of 7 samples, at a concentration of 1.3 mg/kg. Toluene concentrations exceeded the regulatory limits of 0.5 mg/kg for residential sites in 1 out of 7 samples, at a concentration of 0.7 mg/kg. Sum of Aromatic Organic compound concentrations exceeded the regulatory limits of 1 mg/kg for residential sites in 1 out of 7 samples, at a concentration of 2 mg/kg. Light hydrocarbon concentrations ranged from 20 mg/kg to 230 mg/kg, exceeding the regulatory limits of 10 mg/kg for residential sites in 2 out of 7 samples. Heavy hydrocarbon concentrations ranged from 78 mg/kg to 3,700 mg/kg, exceeding the regulatory limits of 50 mg/kg for residential sites in 4 out of 7 samples and exceeding the regulatory limits of 750 mg/kg for industrial sites in 1 out of 7 samples. Site characterization was completed in October 2022. The site was not previously included in the DUCs program.

PROJECT APPROVAL

The project is required IAW DoDI 4715.08 (1 Nov 13), Encl. 3, Par 1a), which is the current standard for remediation in countries where there is no international agreement basis for remediation (i.e., everywhere outside of Germany) and states investigation and cleanup is required due to ...substantial impact to human health and safety (SIHS) due to environmental contamination that is caused by DoD activities and is located on a DoD installation". The project is also required IAW Lead Environmental Component Guidance on Remediation at Department of Defense Installations in Italy, dated 22 January 2019.

IT240 - Caserma Ederle

Installation Name: IT240 - Caserma Ederle

Installation City: Vicenza

5765A.1001_CCVI008_IT240_Bldg 200 Fuel Point

Env Site ID: CCVI008

Cleanup Site: IT240_Bldg 200 Fuel Point

Alias: SEVI008

Regulatory Driver: DODI

RIP Date: 6/16/2025

RC Date: 9/30/2055

RC Reason: Not assigned

SC Date: 9/30/2055

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	1/31/1992	1/31/1992
SI:	1/31/1992	12/31/1994
RI/FS:	1/31/2003	6/15/2024
RD:	1/16/2021	6/15/2024
IRA:	10/31/2007	6/15/2024
RA(C):	6/16/2024	6/15/2025
RA(O):	6/16/2025	9/30/2055
LTM:	--	--

Site Narrative: SITE LOCATION AND DESCRIPTION

1. Location- The site is located at Bldg 200 in the central portion of the Caserma Ederle (ARLOC IT240). The site is located 150 m from the eastern ARLOC boundary.

2. Physical Layout/Site Use- The site is an active POL Point used for supplying JP8 and diesel fuel for light trucks and vehicles. The site covers an area of approximately 2,000 m² and is predominantly covered by concrete with small, grassed areas.

CONCEPTUAL SITE MODEL

1. Release Description- In December 2000, UST # 10 failed an integrity test and was found to be leaking due to the presence of a small pin hole. The UST was immediately taken out of service, its contents removed, and the UST was permanently closed.

2. Media Impacted- Soil and groundwater containing TPH and BTEX at concentrations above D. Lgs. 152/06 limits have been detected.

TPH at 3,500 ug/L (350 ug/L), benzene at 5.8 ug/L (1 ug/L), ethylbenzene at 510 ug/L (50 ug/L), m,p-xylene at 640 ug/L (10 ug/L), and o-xylene at 15.2 ug/L (10 ug/L). Groundwater at the site is located between 1.0-1.5 m and flows in a northwesterly direction.

4. Receptors- The use of groundwater as a public resource and the health of on-site workers are the primary receptors that must be protected.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- Reduce TPH and BTEX in groundwater below D. Lgs. 152/06 limits by conducting ORC injections and pump and treat under the RAC/RAO phase.

2. Achievable Remedial Action Objective- Operation of a pump and treat system to keep plume from migrating off-base. The P&T system is planned to operate for 30 years.

3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.

4. Remediation Methods Planned or Being Conducted- ORC injections, once DD submitted in June 2021 is approved, and pump and treat for 30 years are planned to reduce contaminant concentrations and hydraulically control the plume.

5. Response Complete- Will be achieved following reduction of TPH and BTEX in groundwater below D. Lgs. 152/06 limits.

6. Site Closure- The site will be closed following receipt of a HN closure letter after FRA is complete.

7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto (ARPAV) Vicenza.

PHASE SCHEDULE

1. Current Phase Objective- ORC injections, once DD submitted in June 2021 is approved, and pump and treat for 30 years are planned to reduce contaminant concentrations and hydraulically control the plume.

2. Milestones- RIP (01/26/2025), RC (09/30/2055), Site Closeout (09/30/2055)

SCHEDULE & BUDGET CHANGES

1. Schedule- One year was added to the RD phase during the Spring 2024 datacall.

2. Budget- The CTC for this site in Spring 2024 is TBD.

HISTORICAL SITE ACTIVITIES

TPH at 2,720 ug/L, benzene at 16.1 ug/L ethylbenzene at 52.4 ug/L, and xylene at 348 ug/L. In FY15, the ARPAV has required a Risk Assessment to be performed both with direct and indirect method. Risk Assessment determined that residual risk is present and further action is required to stop the contamination from spreading outside of the site boundaries. HN Authorities requested a pump & treat and/or SVE to be installed, to continue with the quarterly monitoring and to perform a vapor intrusion test in the buildings where a risk for the occupant have been identifies. A decision document was submitted in FY21 that recommended ORC injections and pump and treat for 6 years as the final remedy with no approval yet. During the January and February 2022 groundwater monitoring event, the following concentrations were detected above the D. Lgs standards at well SB10-MW4; TPH at 2,010 ug/L, benzene at 6.4 ug/L, ethylbenzene at 280 ug/L, m,p xylene at 380 ug/L, and o-xylene at 13.1 ug/L. This site was previously included in the DUCs database under DUCS number SEVI0008.

PROJECT APPROVAL

IT212 - Caserma Del Din

Installation Name: Caserma Del Din

Installation City: Vicenza

5763A.1002_CCVI018_IT212_Fmr Fuel Point 83

Env Site ID: CCVI018

Cleanup Site: IT212_Fmr Fuel Point 83

Alias: #

Regulatory Driver: DODI

RIP Date: 3/15/2012

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	12/31/2007	3/1/2009
SI:	3/2/2009	3/30/2009
RI/FS:	3/31/2009	11/30/2009
RD:	12/1/2009	9/30/2011
IRA:	- -	- -
RA(C):	10/31/2009	2/29/2012
RA(O):	3/15/2012	9/30/2054
LTM:	- -	- -

Site Narrative: SITE LOCATION AND DESCRIPTION

1. Location- The site is a former fuel point identified as POL Point 83 and is in the western portion of Caserma Del Din (formerly Dal Molin Airfield) (ARLOC IT212), west of the former runway and immediately south of Bldg. 76 and 67. The site is located approximately 150 m from the western ARLOC boundary.

2. Physical Layout/Site Use- In 2013, the site was re-developed as the Access Control Point of Caserma Del Din. The site is improved with access roads, sidewalks, and green areas.

CONCEPTUAL SITE MODEL

1. Release Description- Contamination at the site is most likely associated with leaking USTs or associated piping or from spills during refilling operations.

2. Media Impacted- Soil containing TPH and groundwater containing BTEX and MTBE at concentrations above D. Lgs. 152/06 limits have been detected.

3. Nature and Extent of Contamination- Prior to the start of remediation, TPH was detected in soil at a maximum concentration of 313 mg/kg that exceeds the D. Lgs. 152/06 limit of 250 mg/kg and Benzene was detected in groundwater at a maximum concentration of 20 ug/L that exceeds the D. Lgs. 152/06 limit of 1 ug/L. There were no exceedances of the CSR limits, defined in the Risk Assessment approved in November 2014, during the November 2022, February 2023, May 2023, and August 2023 sampling events. In November 2023, TPH exceeded the CSR for TPH in PZ.83-3 (670 µg/l). The depth of soil contamination was located from 0 - 5 m and estimated to be approximately 500 m³. The aerial extent of groundwater that is contaminated is approximately 1,083 m². Groundwater at the site is located between 4 - 20 m and flows in a westerly direction.

4. Receptors- The protection of the downgradient Bacchiglione River that flows immediately outside the western boundary of the ARLOC is the primary receptor of concern.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- Reduce BTEX and MTBE in groundwater below D. Lgs. 152/06 limits by conducting MNA. Site is expected to achieve closeout in the next several years; however, without a trend analysis the site will remain estimated for 30 years. Four consecutive quarters of sampling are needed with no exceedances to request closure from the HN.
2. Achievable Remedial Action Objectives- a) Prevent migration of contaminants to the Bacchiglione River and b) Complete groundwater remediation by conducting MNA.
3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.
4. Remediation Methods Planned or Being Conducted- A groundwater P&T system was operated between FY11 and FY14 to reduce contaminant concentrations in groundwater. The P&T system was put in standby in December 2014 to verify effectiveness of the action perform and verify the absence of contamination rebound at the boundary of the site. ORC injections were conducted in FY15. MNA will be performed indefinitely until the remedial objectives are achieved.
5. Response Complete- Will be achieved following reduction and absence of rebound of BTEX and MTBE in groundwater below D. Lgs. 152/06 limits.
6. Site Closure- The site will be closed following receipt of a HN closure letter after MNA is conducted. Four consecutive quarters of sampling are needed with no exceedances to request closure from the HN.
7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto (ARPAV) Vicenza. The ARPAV Vicenza will be closely involved with approving the future monitoring requirements.

PHASE SCHEDULE

1. Current Phase Objective- 30 years of MNA to monitor contaminant degradation.
2. Milestones- RIP (03/15/2012), RC (09/30/2054), Site Closeout (09/30/2054)

SCHEDULE & BUDGET CHANGES

1. Schedule- Monitoring is being performed indefinitely, therefore one year was added to the rolling 30-year timeframe. One year was added to the RA-O phase schedule during the Spring 2024 datacall.
2. Budget- The CTC for this site in Spring 2024 is TBD.

HISTORICAL SITE ACTIVITIES

Dal Molin Airfield dates back to 1929, when an emergency landing airstrip for civilian use was constructed by the Italian Government. Military operations at the airfield began in 1936 and during II world war it was controlled first by the Italian and then by the German Military commands. Following the end of the war, the airfield was reconstructed, returned to military and civilian use, and successively expanded until approximately 1999. In 1958, an agreement was reached to allow SETAF to use a portion of Dal Molin Airbase for the parking, maintenance, and operation of aircraft and helicopters. Eventually, up to 40 aircraft assigned to SETAF during the height of its strength (10,000 soldiers) operated from Dal Molin and Boscomantico Airbases. SETAF was required to jointly staff the control tower and flight operations center at Dal Molin. In addition, SETAF was authorized to install pierced steel planking and to construct temporary buildings. Since 1958, SETAF has maintained a continuous presence of personnel and aircraft at Dal Molin and conducted active air operations at Dal Molin from 1958 until 2007. In 1980, Italy and the United States agreed to include areas of Dal Molin Airbase on the bilateral list of installations where a permanent complement of SETAF personnel was authorized. Permanent SETAF facilities included the flight operations center, POL and aircraft refueling points and the use of one-half of

the aircraft hangar at West Dal Molin (bldg. 18), as well as vehicle and aircraft maintenance facilities. During flight operations and ancillary activities, U.S. and NATO forces utilized all aircraft and vehicle refueling facilities (Former Aviation Fuel Farm (UST 16a-h), Former Fuel Point 83, and Former Fuel Point 24) and other maintenance facilities either directly or through Italian Air Force support. This gas station was equipped with one 15 m³ UST for diesel and one 10-cubic meter UST for unleaded gasoline. Historical reviews indicate that the United States conducted fueling operations at this facility. The Former Fuel Point 83 is not equipped with any oil/water separator. Dal Molin structures and building in this area were demolished except for buildings 76 and 67. During soil and groundwater investigations performed in 2008 under an EBS and additional sampling in 2009, soil and groundwater contamination was detected near the USTs. Soil was found to be impacted with POL (particularly, Light Hydrocarbons C<12) at concentrations exceeding the applicable Italian screening values (also known as CSCs (Concentrazioni Soglia di Contaminazione or Contamination Threshold Concentrations) in the area east of UST 83a. Moreover, groundwater was found to contain BTEX at concentrations exceeding the applicable CSC immediately west of UST 83b. These findings might derive from leakage of the USTs or associated piping or from spills during refilling operations. The USTs were removed in June 2009 and contamination of C12 hydrocarbons was detected at the base of the excavation pit. A pump and treat system was operated at the site from FY11 to FY14 to control off-site migration of the plume. In addition, ORC injections were also conducted in FY15 to reduce contaminant concentrations by enhancing bioremediation. These combined remedial measures have successfully reduced contaminant concentrations in groundwater, and monitored natural attenuation is now underway as the final remedy. During monitoring in 2017, TPH exceeded the cleanup goal (474.8 ug/L) in PZ.83-3 with the following values- May 2017 1,010 ug/L; August 2017 773 ug/L; November 2017 612 ug/L. MTBE exceeded the cleanup goal (54.3 ug/L) in PZ.83-7 with the following values- May 2017 117 ug/L; August 2017 68.3 ug/L; November 2017 130 ug/L; and in PZ.83.6 with a concentration of 58 ug/L in August 2020. Benzene exceeded the cleanup goal (1.4 ug/L) in PZ.83-6 with a concentration of 3.6 ug/L in May 2020 and 3.4 ug/L in August 2020. There were no exceedances of the cleanup goals during the August 2022 monitoring campaign. Benzene exceeded the cleanup goal (1.4 ug/L) in PZ.83-6 in February 2022 with a concentration of 3.10 ug/L. TPH exceeded the cleanup goal (474.8 ug/L) in PZ.83-3 in February 2022 with a concentration of 670 ug/L.

PROJECT APPROVAL

This project is required to maintain operations or protect human health and safety IAW Section 5.1.2 of DoDI4715.8 and DODI Enclosure 3 Chapter, 1 (i). A final decision document was prepared for this site and the In-Theater Commander issued a concurrence letter on 10 FEB 2009. The DD recommended source removal, and groundwater pump and treat, followed by enhanced biodegradation as active remedial measures.

IT528 - LivornoSupply&MaintArea

Installation Name: IT528 - LivornoSupply&MaintArea

Installation City: Pisa

5767A.1001_CCPL002_IT528_Fuel Tanks at Bldg 5147

Env Site ID: CCPL002

Cleanup Site: IT528_Fuel Tanks at Bldg 5147

Alias: SEPL002

Regulatory Driver: DODI

RIP Date: 10/31/2010

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	10/31/1992	10/31/1992
SI:	10/31/1993	8/31/1994
RI/FS:	10/31/2003	9/30/2010
RD:	- -	- -
IRA:	4/30/1995	5/31/1996
RA(C):	9/30/2010	10/30/2010
RA(O):	10/31/2010	9/30/2054
LTM:	- -	- -

Site Narrative: **In Spring 2019 CCPL200 was closed and CCPL002 is being used as the new base-wide groundwater monitoring site. CCPL003, CCPL113, and CCPL114 are now rolled under this Site.**

SITE LOCATION AND DESCRIPTION

1. Location- The site is a former fuel reserve located adjacent to and south of Bldg 5147 in the northern portion of Livorno Supply & Maintenance Area (ARLOC IT528). The site is located 100 m from the western ARLOC boundary.
2. Physical Layout/Site Use- The site is completely unpaved and is currently a grassed area with scattered pine trees.

CONCEPTUAL SITE MODEL

1. Release Description- The use of the site as a former fuel reserve for approximately 20 years has caused groundwater contamination.
2. Media Impacted- TPH and BTEX have been detected in groundwater above the D. Lgs. 152/06 limits.
3. Nature and Extent of Contamination- Prior to remediation, TPH and benzene were detected in groundwater at maximum respective concentrations of 1,100 ug/L and 24 ug/L that exceed the respective D. Lgs. 152/06 limits of 350 ug/L and 1 ug/L. In August 2021, sampling on six points (PZ1, PZ2, PZ3 Bis, PZ4, PZ6 Bis, and PZ7) under the new monitoring program began. In the monitoring campaigns of 2022, 2021, and September 2020, no exceedances of the CSR (Concentrazione Soglia di Rischio / Risk Threshold Concentration) for TPH (equal to 1,437 ug/l) were detected. One exceedance was detected in the campaign of February 2020 (PZ1 – 2,700 ug /l). The aerial extent of groundwater that is contaminated is approximately 2,000 m². Groundwater at the site is located between 3.0 - 3.5 m and flows in a northeasterly direction.
4. Receptors- The use of groundwater for industrial purposes as well as a public resource is the primary receptor that must be protected.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- Conduct MNA in RA(O) indefinitely until NFA is appropriate. The Site will be closed once the certificate of NFA has been received.
2. Achievable Remedial Action Objective- Reduce contaminant concentrations below regulatory values.
3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.
4. Remediation Methods Planned or Being Conducted- MNA is underway and planned for an indefinite 30 years.
5. Response Complete- Was achieved in September 2010 following the HN concurrence with the risk assessment that concluded there is no risk to receptors based on the current exposure routes and contaminant concentrations.
6. Site Closure- The site will be closed following receipt of a HN closure letter after MNA is conducted and after the remediation complete report is sent to the U.S. Navy LEC. A risk analysis will be conducted periodically to determine whether MNA will continue.
7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT) Pisa, who is closely involved the future monitoring requirements and closeout strategy for the site.

PHASE SCHEDULE

1. Current Phase Objective- MNA is being conducted indefinitely under the RA(O) phase.
2. Milestones- RIP (10/31/2010), RC (09/30/2054), Site Closeout (09/30/2054)

SCHEDULE & BUDGET CHANGES

1. Schedule- Monitoring is being performed indefinitely; therefore, one year was added to the rolling 30-year timeframe. One year was added to the phase schedule during the Spring 2024 datacall.
2. Budget- The CTC for this site in Spring 2024 is TBD.

HISTORICAL SITE ACTIVITIES

The site has been used by the U.S since 1972. The site was used as a fuel reserve site for military vehicles until approximately 1990. Three 15 m³ ASTs used for fuel storage were located at this site and were in operation for 20 or more years. In 1994, a subsurface investigation identified soil and groundwater impacted by diesel fuel spills with concentrations as follows- POL concentration was 6,700 mg/kg in subsoil between 2.0 m and 4.0 m bgs in an 15x15 m area and POL concentration of 1,100 ug/L and benzene concentration of 24 ug/L in the groundwater. After the investigation an AS/SVE pilot test for contaminated soil and groundwater was conducted from 1996 to 1997. During the operation of the AS/SVE system, BTEX concentrations were reduced to non-detectable in 30 days, whereas TPH and PAHs in groundwater maintained high values, due in part to the presence of free- floating product. A groundwater pump & treat system was installed using active coal filters and was in operation from 26 November, 1996 to 6 March, 1997. Sampling results during this time indicated a decreasing trend in contamination levels; however, at the end of the remediation project (6 March, 1997) concentration levels of xylene and TPH still exceeded limits set by D.M. 471/99. An additional study in 2003 indicated no BTEX in water and soil gas but found high TPH concentrations as well as free-floating product in a number of wells. The impacted area was restricted to the former tank area and did not appear to be spreading. Fuel related contaminants in groundwater exceeded local authorities regulatory limit set forth in the regulation D.M. 471/99 thus stipulating the necessity for remediation. In March 2007, after the approval from the Italian Authorities, the ORC injection began. In September 2008, an additional soil

boring investigation was performed in coordination with the ARPAT to check the soil and groundwater. The purpose of this investigation was to certify that the site was remediated. However, TPH was detected in the soil at depths of 2 to 5 m in all the soil borings. The results of the risk assessment indicated that there is no risk to humans based on the current contaminant concentrations and potential exposure routes. The risk assessment, that calculated a CSR (Concentrazioni Soglia di Rischio/Risk Threshold Concentration) for TPH of 910 ug/L, was sent to the local authorities for their review and approval. The local authorities had agreed with the findings of the risk assessment and closing of site. However, during the May 2013 monitoring campaign performed in conjunction with the local authorities under the monitoring contract the groundwater indicated TPH contamination above the CSR in the groundwater sampled from the well Pz6 (1,327 ug/L). During the monitoring campaign performed in August 2013 TPH contamination was found in four of the six piezometers with a maximum concentration detected in PZ3 of 777.2 ug/L (lower than the calculated CSR). Therefore, quarterly monitoring at seven wells between FY14 through FY16 was performed. During monitoring conducted in February 2014, no exceedances of the CSR or CSC were observed in either of the two piezometers in the monitoring program. During the 18 March, 2014 CoS, the HN requested to perform a further groundwater sampling to verify if site closure is feasible. A risk assessment conducted in 2017 reset the CSR, however, HN never provide concurrence. No exceedances of regulatory limits were found in August 2019, in the additional sampling of October 2019 (performed only on PZ3 bis and PZ6 bis), and in the previous campaign of March 2019. In the monitoring campaign of August 2018, exceedances of the CSR were detected with a very high concentration in PZ6 (22,000 ug /l) and in PZ7 (1,800 ug /l). As of the Spring 2023 datacall, the last five rounds of sampling were below this CSR while the last four rounds of sampling were below the CSC. This site was previously included in the DUCs database under DUCS number SEPL002.

PROJECT APPROVAL

This project is required to maintain operations or protect human health and safety IAW Section 5.1.2 of DoDI4715.8 and DODI Enclosure 3, Chapter 1 (i). A final decision document was prepared for this site and signed on 27 April, 2011.

5767A.1002_CCPL003_IT528_Abandoned Landfill

Env Site ID: CCPL003

Cleanup Site: IT528_Abandoned Landfill

Alias: SEPL003

Regulatory Driver: DODI

RIP Date: 10/31/2007

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	3/31/1997	4/30/1997
SI:	5/1/1997	12/31/1997
RI/FS:	10/31/1998	3/31/2003
RD:	2/29/2004	12/31/2004
IRA:	--	--
RA(C):	3/31/2005	10/31/2007
RA(O):	10/31/2007	9/30/2054
LTM:	--	--

Site Narrative: **Between Spring 2013 and Spring 2019 this site was being funded through CCPL200. CCPL200 was closed in Spring 2019, and CCPL003 liabilities are now rolled up under CCPL002. Please refer to CCPL002 for funding information for this site.**

SITE LOCATION AND DESCRIPTION

1. Location- The site is a former landfill located between the DRMO fence and Bldg. 5120 in the southwest portion of Livorno Supply & Maintenance Area (ARLOC IT528). The site is located 900 m from the southwest ARLOC boundary.
2. Physical Layout/Site Use- The site is completely unpaved and is currently a grassed area with scattered shrubs.

CONCEPTUAL SITE MODEL

1. Release Description- The use of the site as a former unregulated landfill from 1956 through 1981 caused TPH contaminated soil and groundwater and Chromium VI contaminated soil.
2. Media Impacted- TPH and Chromium VI have been detected in soil above the D. Lgs. 152/06 limits. TPH has been detected in soil and groundwater above the D. Lgs. 152/06 limits.
3. Nature and Extent of Contamination- In August 2021, sampling on two points (PZ8 Bis and PZ15R) under the new monitoring Program began. In August 2022, vinyl chloride (1.74 ug/l) was detected above regulatory limits while Dichloroethylene (0.052 ug/l) was detected below regulatory limits in PZ15R. No exceedances were found for antimony in PZ8bis in August 2022. No exceedances were found in the February 2022 campaign. In August 2021, exceedances for benzene (2.2 ug/l), vinyl chloride (7.4 ug/l), and 11 dichloroethylene (0.12 ug/l) were detected in PZ15R while no exceedances for antimony were found in PZ8bis. In the previous monitoring campaign of January 2021, exceedances for benzene (2 ug/l), vinyl chloride (8.6 ug/l), and 11 dichloroethylene (0.11 ug/l) were detected in PZ15R while no exceedances for antimony were found in PZ8bis. In the monitoring campaign of September 2020,

exceedances for benzene (2.5 ug/l), vinyl chloride (11 ug/l), and 11 dichloroethylene (0.11 ug/l) were detected in PZ15R while no exceedances for antimony were found in PZ8 Bis. In the previous monitoring campaign of February 2020 exceedances for Benzene (1.2 ug/l), and Vinyl Chloride (2.2 ug/l) were detected in PZ15R while no exceedances were detected in PZ8 Bis (that replaced PZ8/SG1). In the monitoring campaign of August 2019 exceedances for 11-Dichloroethylene (0.23 ug/l), Vinyl Chloride (0.92 ug/l), and Benzene (2.2 ug/l) have been detected in PZ15R. The depth of soil contamination was located between 0.0 - 4.5 m and estimated to be approximately 200,000 m³. The aerial extent of groundwater that is contaminated is approximately 88,000 m². Groundwater at the site is located between 1.0 - 2.0 m and flows in an easterly direction.

4. Receptors- The use of groundwater for industrial purposes and as a public resource is the primary receptor that must be protected.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- Conduct MNA indefinitely under site CCPL002 until NFA is achieved.
2. Achievable Remedial Action Objective- It is expected that no further remediation will be required at the site. MNA will be performed indefinitely under CCPL002.
3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.
4. Remediation Methods Planned or Being Conducted- MNA in RA(O) to monitor contaminant concentrations.
5. Response Complete- Will be achieved after MNA when the remedial goals have been achieved.
6. Site Closure- The site will be closed following receipt of a HN closure letter after MNA is conducted. A risk analysis will be conducted periodically to determine whether monitoring will continue for this site.
7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT) Pisa Department.

PHASE SCHEDULE

1. Current Phase Objective- MNA in the RA(O) phase is being conducted under CCPL002 indefinitely.
2. Milestones- RIP (10/31/2007), RC (09/30/2054), Site Closeout (09/30/2054)

SCHEDULE & BUDGET CHANGES

1. Schedule- One year was added to the RAO and RC end date during the Spring 2024 datacall.
2. Budget- This is a zero cost site in Spring 2024.

HISTORICAL SITE ACTIVITIES

A PA/SI was performed in 1997 and an RI/FS was completed in 2003. During these investigations, heavy metals as well as TPH were detected within the fill materials as well as in the groundwater. The landfill site was active from 1956 through 1981 and was used as a disposal site for various materials that include pesticides, solvents, POL, batteries, etc. Moreover, this area was utilized as a place for burning of various types of wastes between 1962 and the 1970s. On occasion, the area was also used for scrapping vehicles after having removed the batteries and fuel oil. Soil tests conducted in 1998 showed chromium concentrations up to 14,435 mg/kg. The groundwater analysis indicated elevated TPH concentrations as high as 681 ug/L, which exceeded the Italian drinking water standard. Additional soil and groundwater investigations performed in 2003 indicated that no other contaminants in the groundwater exceeded limits set forth in Italian DM 471/99. However TPH in the soil exceeded action levels of 750/250 mg/kg for heavy/light hydrocarbons at industrial sites. In addition to performing core borings and piezometers, some trenches were excavated for the purpose of delineating the landfill wastes vertically and

horizontally. The investigation was supplemented by Geo-Radar survey which identified all areas where anomalies were present. Based on the data presented, the Italian regulatory authorities suggested ex-situ remediation. A remedial design subsequently was completed in April 2005. Landfill remediation execution was awarded in 2005; the excavation of lot # 1 began in 2006. Prior to landfill excavation, TPH and Chromium VI were detected in soil at maximum respective concentrations of 1,921 mg/kg and 21.4 mg/kg that exceed the D. Lgs. 152/06 limits of 250 mg/kg and 15 mg/kg. TPH was detected in groundwater at a maximum concentration of 681 ug/L that exceeds the D. Lgs. 152/06 limit of 350 ug/L. The first round of monitoring commenced in November 2008. During the program, other contaminants were detected in groundwater above the D. Lgs. standard limits (antimony, benzene, vinyl chloride, 1,1 dichloroethylene, trichloroethylene). The monitoring campaign performed at the site on July 2013 indicated exceedances only of vinyl chloride (3.36 ug/L), and benzene (2.2 ug/L). The monitoring campaign performed at the site on February 2014 indicated no exceedance for TPH. In addition, during the 18 March, 2014 CoS, the HN request to perform another groundwater monitoring of the piezometers located at the site and a Risk Assessment. A risk analysis will be conducted periodically to determine whether MNA will continue for this site. This site was previously included in the DUCs database under DUCs number SEPL003.

PROJECT APPROVAL

This project is required to maintain operations or protect human health and safety IAW Section 5.1.2 of DoDI4715.8 and DODI Enclosure 3, Chapter 1 (i).

5767A.1010_CCPL113_IT528_Field Near Bldg 5120

Env Site ID: CCPL113

Cleanup Site: IT528_Field Near Bldg 5120

Alias: #

Regulatory Driver: DODI

RIP Date: 10/13/2022

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	6/30/2000	1/31/2007
SI:	1/31/2007	2/28/2009
RI/FS:	3/31/2009	9/30/2011
RD:	--	--
IRA:	--	--
RA(C):	9/30/2011	10/12/2022
RA(O):	10/13/2022	9/30/2054
LTM:	--	--

Site Narrative: **Between Spring 2013 and Spring 2019 this site was being funded through CCPL200. CCPL200 was closed in Spring 2019, and CCPL113 liabilities are now rolled up under CCPL002. Please refer to CCPL002 for funding information for this site.**

SITE LOCATION AND DESCRIPTION

1. Location- The site is an open field located adjacent to Bldg 5120 in the western portion of Livorno Supply & Maintenance Area (ARLOC IT528). The site is located adjacent to the western ARLOC boundary.
2. Physical Layout/Site Use- The site covers an area approximately 120 m by 120 m and is bounded on the east side by the storm water ditch adjacent to Montgomery Avenue; on the north side by a dirt access road; on the west side by railroad tracks; and on the west side by Bldg 5120. The area is completely unpaved and covered with grass.

CONCEPTUAL SITE MODEL

1. Release Description- Handling losses, undocumented spills, and improper storage practices associated with the site being used as a military vehicle maintenance area from 1991 - 2006 has resulted in contaminated soil and groundwater.
2. Media Impacted- TPH in soil and VOCs in groundwater have been detected in groundwater above the D. Lgs. 152/06 limits.
3. Nature and Extent of Contamination- In August 2022, groundwater sampling on five points (5120 EST, NPZC1, NPZC2, NPZC5, and NPZC7) under the new monitoring program was performed. No exceedances were detected in the two campaigns of 2022 or in the previous monitoring rounds of August 2021, January 2021, September 2020, February 2020, August 2019, March 2019, and August 2018, while a slight exceedance for Trichloromethane in NPZC5 (0.52 ug/l) was detected in the sampling of February 2018. Groundwater at the site is located between 0.5 - 2.5 m and flows in a northeasterly direction.

4. Receptors- The use of groundwater for industrial purposes and the health of on-site workers are the primary receptors that must be protected.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- A site closure report was prepared on 19 April 2022 and site closure was requested from HN on 12 October 2022. MNA will be conducted indefinitely, for a rolling 30 years, under site CCPL002 until NFA is approved by HN. As the latest results have been below remediation goals, site closure is expected in near future. The HN collected confirmatory samples in February 2023.

2. Achievable Remedial Action Objective- MNA to reduce contaminant concentrations in groundwater until the remedial objectives are met.

3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.

4. Remediation Methods Planned or Being Conducted- It is expected that no further active remediation will be required at the site. MNA will be performed indefinitely under CCPL002.

5. Response Complete- Will be achieved once the groundwater concentrations remain below the remedial action objectives.

6. Site Closure- The site will be closed following receipt of a HN closure letter after MNA is conducted. A risk analysis will be conducted periodically to determine whether monitoring will continue for this site.

7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT) Pisa Department. The ARPAT Pisa will be closely involved with dictating the future monitoring requirements and closeout strategy for the site.

PHASE SCHEDULE

1. Current Phase Objective- MNA is being conducted through CCPL002 indefinitely.

2. Milestones- RIP (10/13/2022), RC (09/30/2054), Site Closeout (09/30/2054)

SCHEDULE & BUDGET CHANGES

1. Schedule- Monitoring is being performed indefinitely therefore one year was added to the rolling 30-year timeframe. One year was added to the phase schedule during the Spring 2024 datacall.

2. Budget- This is a zero cost site in Spring 2024.

HISTORICAL SITE ACTIVITIES

The area has been used by the U.S. since 1952. The site is a green area that was in operation from 1991 until 2006 as a military vehicle maintenance area. This activity was performed inside a tent that was removed in 2007. The area is no longer in use. In June 2000, in accordance with the requirements of the Italian Law 471/99 and guidance received by the Executive Agency, the Installation Environmental Office reported to the Italian Government Environmental Agencies, through the Italian Base Commander that the site was to be considered Potentially Contaminated in consideration of the activities carried out in the area. During 2006, evidence of trace amounts of POL was observed in soil. In November 2007, soil and groundwater investigations were performed, which consisted of installation of 12 soil borings, 8 piezometers and 1 well. During soil and groundwater investigations performed in 2007, contamination of the subsurface with fuels-related contaminants was detected. Soil contamination with TPH C>12 was detected at 5,034 mg/kg with the remediation target level being 750 mg/kg. Groundwater was also found to be impacted mainly by trihalomethanes (chloroform, bromoform etc.). In extraction well WPC, concentrations of dibromochloromethane was detected at 5.39 ug/L with the remediation target level being 0.13 ug/L. TPH in soil and VOCs in groundwater exceed the applicable Italian law Testo Unico dell' Ambiente D. Lgs. 152/06. Based on the findings of the 2007 SI, a RI/FS was conducted to delineate the

extent of soil and groundwater contamination. The findings of the RI/FS and risk assessment indicated that NFA is appropriate following several years of monitoring. Approximately 30 m³ of contaminated soil was removed in 2008. The results of the risk assessment indicated that there was no risk to human health from the soil based on the current contaminant concentrations and potential exposure routes. However, a potential risk from the groundwater did exist based on the detection of trichloromethane, bromodichloromethane, dibromochloromethane, and tribromomethane (this last parameter, although not included as one of the original CoCs, was included afterwards because it exceeded the legal limits). The risk assessment was sent to the local authorities and during the 16 February 2011 Service Conference, the local authorities disagreed with the results and requested one year of groundwater monitoring with two sampling campaigns (one during the groundwater low flow period (i.e., winter) and one during moderate flow period (i.e., summer) to be performed on all the piezometers on site. The requested monitoring was performed in March and July 2012. In addition, the monitoring continued in March and July 2013 but only for seven piezometers including the one recently drilled at the boundary. At the end of 2013 only four piezometers were included in the monitoring program, following a HN decision. During groundwater monitoring dated February 2014, no contamination was observed or detected. During the 18 March 2014 CoS, the HN requested another year of monitoring to verify if site closure will be feasible. In FY15 the HN requested an additional year of monitoring in FY16. The last exceedances occurred during monitoring in February 2018. Since then, no exceedances have occurred in five wells. A risk analysis will be conducted periodically to determine whether monitoring will continue for this site. This site was not included in the DUCs program.

PROJECT APPROVAL

This project is required to maintain operations or protect human health and safety IAW Section 5.1.2 of DoDI4715.8 and DODI Enclosure 3, Chapter 1 (i).

5767A.1011_CCPL114_IT528_Bldg 5180 Parking Lot

Env Site ID: CCPL114

Cleanup Site: IT528_Bldg 5180 Parking Lot

Alias: #

Regulatory Driver: DODI

RIP Date: 3/16/2013

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	6/30/2000	1/31/2007
SI:	2/1/2007	2/28/2009
RI/FS:	3/31/2009	2/15/2013
RD:	--	--
IRA:	--	--
RA(C):	2/15/2013	3/15/2013
RA(O):	3/16/2013	9/30/2054
LTM:	--	--

Site Narrative: **Between Spring 2013 and Spring 2019 this site was being funded through CCPL200. CCPL200 was closed in Spring 2019, and CCPL114 liabilities are now rolled up under CCPL002. Please refer to CCPL002 for funding information for this site.**

SITE LOCATION AND DESCRIPTION

1. Location- The site is a parking lot located north of Gate SG 27 adjacent to Bldg 5180 in the northern portion of Livorno Supply & Maintenance Area (ARLOC IT528). The site is located approximately 10 m from the northern ARLOC boundary.
2. Physical Layout/Site Use- The site is used as a parking area and covers an area approximately 150 m by 150 m. The area is completely unpaved and covered with gravel.

CONCEPTUAL SITE MODEL

1. Release Description- Handling losses, undocumented spills, and improper storage practices associated with the site being used as a temporary military vehicle maintenance area from 1991 to 2006 has resulted in contaminated soil and groundwater.
2. Media Impacted- Pesticides in soil and VOCs in groundwater have been detected above the D. Lgs. 152/06 limits.
3. Nature and Extent of Contamination- In August 2022, sampling on five points (PZI1, NPZI1, NPZI2, NPZI7, and 5180 EST) under the new monitoring program was performed. During this monitoring campaign, exceedances in vinyl chloride (NPZI7 - 6.1 ug/l) and trichloroethylene (PZI1 - 7.1 ug/l, 5180EAST - 1.91 ug/l) were detected. This is consistent with exceedances of previous rounds in February 2022, August 2021, January 2021, and September 2020. In the monitoring campaign of August 2021, exceedances of the CSRs for vinyl chloride (NPZI7 – 23 ug/l), 1,1-dichloroethylene (PZI1 – 0.064 ug/l), and trichloroethylene (PZI1 – 6.3 ug/l) were detected. In the monitoring campaign of January 2021, exceedances of the CSRs for trichloroethylene (PZI1 - 8.1 ug/l) and vinyl Chloride (NPZI7 – 26 ug/l) were

detected. In the monitoring campaign of September 2020 exceedances for vinyl chloride (33 ug/l – NPZI7), 11 dichloroethylene (0.051 ug/l - 5180 EST), and trichloroethylene (5180 EST – 2.3 ug/l and PZI1- 5.4 ug/l) were detected. The aerial extent of groundwater that is currently above D. Lgs. 152/06 limits is approximately 2,250 m². Groundwater at the site is located between 1.0 and 2.0 m and flows in the northeasterly direction.

4. Receptors- The use of groundwater for industrial purposes and the health of on-site workers are the primary receptors that must be protected.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- Conduct MNA indefinitely in the RA(O) phase under site CCPL002 until NFA is achieved. Results from recent sampling indicate stable concentrations consistent with historical results and do not support site closure.

2. Achievable Remedial Action Objective- It is expected that no further remediation will be required at the site. MNA will be performed indefinitely under CCPL002.

3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.

4. Remediation Methods Planned or Being Conducted- No active remediation has been conducted or is currently planned at the site. MNA is being performed to monitor contaminant degradation.

5. Response Complete- Will be achieved once the groundwater concentrations remain below the remedial action objectives.

6. Site Closure- The site will be closed following receipt of a HN closure letter after MNA is conducted. A risk analysis will be conducted periodically to determine whether monitoring will continue for this site.

7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT) Pisa Department. The ARPAT Pisa will be closely involved with dictating the future monitoring requirements and closeout strategy for the site.

PHASE SCHEDULE

1. Current Phase Objective- MNA is being conducted through CCPL002 indefinitely.

2. Milestones- RIP (03/16/2013), RC (09/30/2054), Site Closeout (09/30/2054)

SCHEDULE & BUDGET CHANGES

1. Schedule- Monitoring is being performed indefinitely therefore one year was added to the rolling 30-year timeframe. One year was added to the phase schedule during the Spring 2024 datacall.

2. Budget- This is a zero cost site in Spring 2024.

HISTORICAL SITE ACTIVITIES

The Bldg 5180 parking lot was used as a temporary maintenance area for military vehicles from 1991 until 2006. This activity was performed inside a tent that was dismantled in 2007. The area is no longer in use. In June 2000, in accordance with the requirements of the Italian Law 471/99 and guidance received from the Executive Agency, the Installation Environmental Office reported to the Italian Government Environmental Agencies, through the Italian Base Commander, that the site was to be considered Potentially Contaminated in consideration of the activities carried out in the area. During 2006, evidence of trace POL was observed in soil. In November 2007, a soil and groundwater investigation was performed during which 5 soil borings, 3 piezometers, and 2 wells were installed. Contamination of the subsurface with pesticides-related contaminants and groundwater contamination with VOCs were detected. Soil contamination with pesticides (DDT- 2.238 mg/kg, DDD - 0.678 mg/kg, and DDE - 1.676 mg/kg) was detected above the remediation target level of 0.1 mg/kg. Groundwater

was also found to be contaminated mainly by trihalomethanes (chloroform, bromoform, etc.) and, in extraction well WPI2 1,1-dichloroethylene (detected at a concentration of 2.31 ug/L with the remediation target level being 0.05 ug/L). Pesticides in soil and VOCs in groundwater exceed the applicable Italian law Testo Unico dell Ambiente D. Lgs. 152/06. Based on the findings of the 2007 SI, a RI/FS was conducted to delineate the extent of soil and groundwater contamination. The findings of the RI/FS and risk assessment indicated that there was a potential risk to human health through the groundwater contamination. The risk assessment was sent to the local authorities and during the 16 February 2011 Service Conference, the local authorities disagreed with its results and requested only one year of groundwater monitoring with two sampling campaigns (one during the groundwater low flow period (i.e., winter) and one during moderate flow period (i.e., summer) to be performed on all of the piezometers on site to determine if remedial action is required. During a sampling event conducted in Fall 2011, CHCs were detected in one well. In July 2012 and in 2013, CHC contamination was detected. For this reason, the HN requested monitoring on 4 wells. In FY14, 4 wells were sampled on a semi-annual basis for metals, BTEX, PAH, VOC, pesticides, and TPH. In 2014, dibromochloromethane was detected at 0.19 ug/L and trichloroethylene was detected at 2.02 ug/L, each exceeding their respective CSCs of 0.17 ug/L and 1.5 ug/L. In the previous campaign of February 2020, no exceedances were detected. In the monitoring campaign of August 2019 three slight exceedances for 11-Dichloroethylene (PZI1 – 0.091 ug/l, NPZI7 – 0.054 ug/l, and 5180 Est – 0.065 ug/l) and one exceedance for TCE (PZI1 – 9.4 ug/l) were detected. In the campaign of March 2019 two exceedances for TCE (PZI1 – 3.1 ug/l and 5180 EST – 1.7 ug/l) and one exceedance for Trichloromethane (PZI1 – 0.94 ug/l) were found. A risk analysis will be conducted periodically to determine whether monitoring will continue for this site. This site was not included in the DUCs program.

PROJECT APPROVAL

This project is required to maintain operations or protect human health and safety IAW Section 5.1.2 of DoDI4715.8 and DODI Enclosure 3, Chapter 1 (i).

5767A.1014_CCPL118_IT528_Bldg 5012 Diesel Spill

Env Site ID: CCPL118

Cleanup Site: IT528_Bldg 5012 Diesel Spill

Alias: #

Regulatory Driver: DODI

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 10/16/2025

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Not assigned

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: N/A

Phase	Start	End
PA:	11/11/2020	2/15/2021
SI:	2/16/2021	10/15/2025
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
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Site Narrative: SITE LOCATION AND DESCRIPTION

1. Location- The site is located in the Livorno Supply and Maintenance Area (LSMA), USAG Italy DMC.
2. Physical Layout/Site Use- The site is located beneath an asphalt-paved parking lot between an aboveground storage tank (AST) and the western side of bldg. 5012.

CONCEPTUAL SITE MODEL

1. Release Description- Diesel fuel was found by DMC personnel during an inspection in a manhole alongside the AST on 11 November 2020. The source of the release was found to be from leaking pipe joints associated with the AST which contained diesel fuel for heating. It is estimated that approximately 2,000 liters of diesel fuel were released. The exact timing of the release is unknown; however, the spill occurred in the time period between the previous passing leak test in July 2020 and 11 November 2020 when another leak test was performed on the piping and leaks were found. Subsequent investigations found that the leakage occurred exclusively in the joints of the piping located in the manhole and that the diesel fuel infiltrated into the ground within the manhole.
2. Media Impacted- Soil and potentially groundwater is contaminated with diesel fuel.
3. Nature and Extent of Contamination- Test pits were excavated at six locations around the manhole and associated subsurface piping to define the limits of the release. The test pits were terminated at the groundwater table located approximately 2.4 meters below ground surface (bgs). Soil samples were analyzed for light hydrocarbons, heavy hydrocarbons, organic aromatic compounds, and polycyclic aromatic hydrocarbons with a maximum concentration of 91,000 mg/kg detected in TP-1 near the manhole. To limit the spread of contamination emergency response actions were performed to excavate approximately 42 cubic meters of soil (7m long x 4 m wide x 1.5 m deep) around TP-1. Additional emergency response measures included removal of the manhole and piping affected by the release. Not all impacted soil was removed during the emergency response measures and additional investigations are needed to fully define the nature and extent of the release.

4. Receptors- The heavy hydrocarbons in shallow soil pose a potential health risk to future on site workers ecological receptors and potentially groundwater.

REMEDIAL OBJECTIVE

1. Long-Term Closeout Strategy- Demonstrate no significant risk from the diesel spill or remove impacts identified during the SI.
2. Achievable Remedial Action Objective- May be determined at the conclusion of the SI.
3. Specific Regulatory Standards and Legal Drivers- The Legislative Decree (D. Lgs.152/06) is being used for the evaluation of contaminant concentrations.
4. Remediation Methods Planned or Being Conducted- Subsequent investigations will determine if additional remediation is required.
5. Response Complete- The RC is dependent upon findings of the SI. At this point the RC is temporarily being set as the SI completion date.
6. Site Closure- The site will be closed after no significant risk can be demonstrated.
7. Host Nation Involvement- The HN environmental authority for the site is the Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT) Pisa Department.

PHASE SCHEDULE

1. Current Phase Objective- A detailed soil and shallow groundwater investigation is planned in FY22 to identify the extent of the contamination.
2. Milestones- RIP (10/15/2025), RC (10/15/2025), Site Closeout (10/16/2025)

SCHEDULE & BUDGET CHANGES

1. Schedule- No changes were made to the schedule during the Spring 2024 datacall.
2. Budget- This is a zero cost site in Spring 2024.

HISTORICAL SITE ACTIVITIES

The spill was discovered on 11 November 2020 by a DMC personnel in an inspection manhole located alongside the AST. At this site a spill of diesel fuel used for heating from an underground pipe occurred, and emergency response measures were implemented. Approximately 2,000 liters of diesel fuel that was used for heating purposes was spilled from underground pipe joints located in the area between the above-ground diesel tank, after the above-ground storage tank (AST) and Bldg. 5012. Soil samples were analyzed for light hydrocarbons, heavy hydrocarbons, organic aromatic compounds, and polycyclic aromatic hydrocarbons. To limit the spread of contamination, there was an excavation for hotspot removals. The excavation has been carried out on a plan area of 7 x 4 meters and has been deepened up to the detection of groundwater, at a depth of 1,5 meters below ground level. The soil samples were collected 0-1 meter below ground level (surface soil) and 1 to 1.5 meters below ground level (capillary fringe). Trial pits were also performed with excavators on 18 and 19 January 2021. The trial pits (TP5 and TP6) were located at the eastern and western edges of the excavation area planned for the removal of the contamination hotspot. The trial pits were deepened until reaching the groundwater table which was detected at a depth of 1.5 meters below ground level. Due to the heavy winter rainfall there was a significant rise in the groundwater table elevation, which, at the beginning of December 2020, was locally about 2.4 meters below ground level. The heavy hydrocarbons in the trial pit TP1 had a maximum of 91,000 mg/kg. While in TP2, it had a minimum of 1,400 mg/kg. The distribution of concentrations shows high concentrations in the area where the spill occurred, i.e., around the inspection manhole, which was later removed, with maximum concentrations in TP1 (located under the manhole) and

gradually lower concentrations moving away (TP2, TP5 and TP6). The farthest test pits, TP3 and TP4 show no traces of contamination. The site was not previously included in the DUCs program.

PROJECT APPROVAL

The project is required IAW DoDI 4715.08 (1 Nov 13), Encl. 3, Par 1a) which is the current standard for remediation in countries where there is no international agreement basis for remediation (i.e., everywhere outside of Germany) and states investigation and cleanup is required due to substantial impact to human health and safety (SIHS) due to environmental contamination that is caused by DoD activities and is located on a DoD installation". The project is also required IAW Lead Environmental Component Guidance on Remediation at Department of Defense Installations in Italy, dated 22 January 2019.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
5764A.1001	CCPL013_IT219 - AGIP Gas Station	9/30/2013
5764A.1002	CCPL106_IT219 - Bldg 750, Skeet Range	12/14/2018
5764A.1003	CCPL115_IT219 - Bldg 5012, Diesel Spill	3/31/2010
5764A.1004	CCPL116_IT219 - Bldg 204, AST Oil Releas	10/15/2014
5764A.1005	CCPL007_IT219-DRY CLEANING PLANT	6/15/2019
5765A.1002	CCVI016_IT240 - Bldg 345 (Ederle Inn)	4/16/2017
5765A.1004	CCVI017_IT240 - Pharmacy Bldg 81	3/21/2016
5763A.1001	CCVI200_173rd ABCT Consol. and Redevelop	10/18/2012
5763A.1003	CCVI019_IT212 - Fmr. Avn. Fuel Farm (UST	1/20/2015
5763A.1004	CCVI201_IT212-STORM WATER CHANNEL	7/31/2017
5763A.1005	CCVI202_IT212 - Generator Bldg #3	5/20/2021
5767A.1003	CCPL008_IT528 - Waste Treatment Plant	6/13/2013
5767A.1004	CCPL010_IT528 - Bldg 5138, Vehicle Proce	11/8/2013
5767A.1005	CCPL016_IT528 - Bldg 5024, Drainage Outl	3/31/2001
5767A.1006	CCPL100_IT528 - Bldg 5023, Former Heatin	4/1/2015
5767A.1007	CCPL110_IT528 - Bldg 5152, Former Wash R	1/21/2019
5767A.1008	CCPL111_IT528 - Paint Spray Booth/Mainte	1/27/2014
5767A.1009	CCPL112_IT528 - BLDG 5093, Tent#2, AST P	7/9/2015
5767A.1012	CCPL115A_IT528 - Bldg 5012, Diesel Spill	2/21/2012
5767A.1013	CCPL200_IT528-LTM@ LIVORNO AREA INSTALLA	6/15/2019