

APPENDIX A

Background Details of Fuel Storage Tank Sites

PA Summary

DoD Site #

15

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

0080-140-440

Owner Name

BENICIA INTERNTL ASSOC

Site Address

711 JACKSON STREET

Year Bldg. Built

1926

Year Bldg. Removed

Post 1963

Site Area (SqFt)

63

Current Land Use

Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Fuel Storage Facilities

DoD Uses

Pump house-fuel oil

Secondary DoD Uses

Fuel type

Post-Army Uses

None Identified

Flooring

Concrete

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Approximate Building vacate date 12/31/63 (ref 713).

Records Research Report Comments

Portions of facility (foundation and retaining wall) still remain. Presumably served Fuel Storage Tank Building 178 and possibly 118A.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

In June 2000, the USACE conducted a geophysical survey to locate underground fuel lines formerly used to transfer fuel from above ground storage tanks (Building 178 and possibly Building 118A) to neighboring buildings (for example, the locomotive buildings at Building 156 and 90). The survey located fuel lines extending east and north from the area where they were exposed at former Building 15 (ref 1060). Pipelines were exposed at the surface based on the geophysical survey. No evidence of staining was present when the pipelines were exposed. The north trending pipeline was not fully uncovered due to a retaining wall. The retaining wall would have to be partially removed to expose the pipeline. Therefore, per agreement with the USACE, further investigation of this pipeline was not conducted due to the possibility of an unstable slope (ref 1060).

RECOMMENDATIONS

The above ground portion of the fuel lines at Building 15 (confirmed by the geophysical survey) was recommended to be removed as a preventative measure to eliminate the potential for future use. The below ground portion of the fuel lines was

PA Summary

DoD Site #

15

Area I

recommended to be abandoned in place. Based on these recommendations, this site requires further action to complete these tasks. These tasks will be performed during the feasibility study.

PA Summary

DoD Site #

20

Area M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-340-020	KOERNER NORMAN D & BETTY L	3001 BAYSHORE ROAD
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1950	Not applicable	720
Current Land Use	Industrial-General	

OPERATIONAL HISTORY

DoD Use Type
Tire Rebuild Facility

DoD Uses
Boiler House

Secondary DoD Uses
Unknown

Post-Army Uses
1968-1978: leased to Lutz Tire for the manufacture of tire and rubber products (ref 586 and 587).

Flooring
Unknown

Disposal Information
None Identified

Activities (inside/outside)
Unknown

Records Research Report Addenda Data
A 1954 map (ref 646) identified this building as a boiler house.

Records Research Report Comments
Diesel-fueled boiler. Supplied steam for heating and for tire processing operations in Building 155 (ref 118). It was located west of Building 155. Records do not give a clear indication as to the status of the boiler or fuel supply tank. An attempt was made in 1990 by the landowner to remove the boilers. According to the document as the workmen were removing the boilers a spark from the welding caught the grass and a grass fire ensued (ref 507). The report gives no further indication as to the completion of the removal of the boilers, or the disposal.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	0	Unknown	Diesel	1950	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage
Comments: Used to heat boiler. Removed by landowner

Furthest Stage of Environmental Investigation

RIFS

COMMENTS

Additional research was conducted during a site visit on 10/8/03. The boiler house has been renovated to an office. The UST

PA Summary

DoD Site #

20

Area M

was removed and investigated by the landowner. The site is closed to further environmental action.

RECOMMENDATIONS

No DoD action is indicated (NDAI) for this site.

PA Summary

DoD Site #

25

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-150-020	DAVID STEPHEN F	951 JEFFERSON STREET

Year Bldg. Built	1874	Year Bldg. Removed	Not applicable	Site Area (SqFt)	7327
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Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Housing

DoD Uses

Lieutenant's quarters

Secondary DoD Uses

Fuel type

Post-Army Uses

Residence

Flooring

Wood

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

250-gallon fuel oil tank and burner installed December 1929.

Records Research Report Comments

Located west of Building 29, the Clock Tower.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	250	Unknown (likely steel)	Fuel oil	1929	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: 1999 investigation unable to find. Assumed to be removed or is the tank at Building 26.

Furthest Stage of Environmental Investigation

RIFS

COMMENTS

In June 2000, the USACE conducted a geophysical survey and the excavation of one test pit to determine the location of fuel lines and an associated fuel oil UST. The UST fueled a boiler in the basement of Building 25. The geophysical survey did not locate any anomalies that would be the size of the UST. The survey did trace two fuel lines from the building basement (former location of the boiler) to an abrupt end in front of the building. One test pit was excavated to investigate the end of the fuel

PA Summary

DoD Site #

25

Area I

lines. The two lines were cut and uncapped. No indication of a UST or any odors, staining or other field indications of fuel leakage were observed. No water was encountered in the excavation, and no samples were collected from the test pit (ref 1063).

RECOMMENDATIONS

Based on the findings from this investigation, no further investigation is recommended.

PA Summary

DoD Site #

26

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-150-020	DAVID STEPHEN F	951 JEFFERSON STREET

Year Bldg. Built	1874	Year Bldg. Removed	Not applicable	Site Area (SqFt)	6420
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Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type
Housing

DoD Uses
Lieutenant's quarters

Secondary DoD Uses
Fuel type

Post-Army Uses
Residence

Flooring
Wood

Disposal Information
None Listed

Activities (inside/outside)
Inside

Records Research Report Addenda Data
250-gallon fuel oil tank and burner installed in October 1928.

Records Research Report Comments
Located west of Building 29, the Clock Tower.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	250	Steel	Fuel oil	1928	2002	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: UST appears to be intact with no obvious holes or punctures (BC Ref 1078). Removed by USACE (BC Ref 1053).

Furthest Stage of Environmental Investigation
RI

COMMENTS
In June 2000, the USACE conducted a geophysical survey and excavated one test pit to investigate the fuel lines and associated fuel oil UST. The UST fueled a boiler in the basement of Building 26. The survey located a suspected fuel line exiting the basement of Bldg 26 to an anomaly the size of the suspected UST located adjacent to the Jefferson Street sidewalk. A steel 250-gal UST was encountered. Soil samples were collected. The UST appeared to be intact with no obvious holes or punctures. Diesel fuel was reported at a maximum concentration of 160 mg/kg at 6.3 feet bgs. A deeper sample collected from 8.5 feet bgs

PA Summary

DoD Site #

26

Area I

at the same location was 50 mg/kg. No field indications of fuel leaks or spills from the UST were observed. No water was encountered in the excavation (ref 1063). Between March and April 2002, the USACE removed the UST, associated product piping, properly abandoned the UST, and collected soil samples beneath the former tank and product piping. Diesel fuel and motor oil were detected in three soil samples at a maximum concentration of 70 and 89 mg/kg, respectively and below regulatory limits of 500 mg/kg diesel and 1,000 mg/kg motor oil. Based on the sample results, detectable hydrocarbons concentrations in soil appeared restricted to the immediate UST excavation area. Groundwater was not encountered. Therefore, no groundwater samples were taken (ref 1125).

RECOMMENDATIONS

No DoD action is indicated for this site.

PA Summary

DoD Site #

27

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-150-200	ROBBINS J REED	1063 JEFFERSON STREET

Year Bldg. Built	1861	Year Bldg. Removed	Not applicable	Site Area (SqFt)	7725
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Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Housing

DoD Uses

Captain's Quarters

Secondary DoD Uses

Fuel Type

Post-Army Uses

Residence

Flooring

Wood

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

250-gallon fuel oil tank and burner installed in October 1928.

Records Research Report Comments

Located east of Buildings 25 and 26.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	250	Unknown (likely steel)	Fuel oil	1928	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Unknown if tank is still present.

Furthest Stage of Environmental Investigation

NONE

COMMENTS

Unknown what happened to the fuel tank. The UST may be straddling 2 parcels. A geophysical investigation was inconclusive on 1 parcel. The current landowner of the other parcel at Building 27 denied the USACE access for any activities, including the geophysical survey (ref 1060).

PA Summary

DoD Site #

27

Area I

RECOMMENDATIONS

USACE made multiple attempts to get ROE approval. However, the property owner denied access. Until the USACE is granted access to the property, no further USACE actions can be conducted at the site.

PA Summary

DoD Site #

28

Area 1

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-140-090	BENICIA CITY				
Year Bldg. Built	1860	Year Bldg. Removed	Not applicable	Site Area (SqFt)	12963
Current Land Use	Public				

OPERATIONAL HISTORY

DoD Use Type
Housing

DoD Uses
Quarter's Commanding Officer

Secondary DoD Uses
Fuel Type

Post-Army Uses
Currently vacant

Flooring
Wood

Disposal Information
None Listed

Activities (inside/outside)
Inside

Records Research Report Addenda Data
250-gallon fuel oil tank and burner installed October 1928.

Records Research Report Comments
Located east of Building 27.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	250	Steel	Fuel oil	1928	2002	Unknown	<input type="checkbox"/>

Uses: Fuel Storage
Comments: Removed by USACE (BC Ref 1053).

Furthest Stage of Environmental Investigation

RI

COMMENTS

In June 2000, a geophysical survey was completed and one test pit was excavated to locate fuel oil lines and an associated UST. The UST fueled a boiler in the basement of the building. Additionally, the geophysical survey planned to locate any drain lines connecting the known cisterns and catch basins on the west and east sides of building. The survey identified the location of the suspected fuel lines exiting the boiler room. The survey was inconclusive regarding the presence of a UST. The survey was unable to locate any buried drain lines associated with the catch basins and cisterns at Building 28. In October 2000, one test pit

PA Summary

DoD Site #

28

Area I

was excavated and revealed a steel UST filled with liquid that had a strong hydrocarbon odor. Soil samples were collected; no odors, staining or other field indications of fuel leakage were observed. The UST appeared intact with no obvious punctures or holes. All analytical results for soil samples were below analytical reporting limits. No water was encountered in the excavation (ref 1063). Between March and April 2002, the UST and associated product piping was removed. Soil samples were collected beneath the former tank and product piping. Diesel fuel and motor oil were detected in one soil sample at a maximum concentration of 360 mg/kg and 910 mg/kg, respectively at sample location B28-B1-6'. These concentrations are below regulatory limits of 500 mg/kg diesel and 1,000 mg/kg motor oil. Based on the results of samples collected from this excavation, hydrocarbons concentrations in soil appeared restricted to the immediate UST excavation area. No groundwater samples were taken (ref 1125).

RECOMMENDATIONS

No further DoD action is indicated for this site.

PA Summary

DoD Site #

31

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address	
0080-140-170	J R SCHNEIDER CO INC	849 JACKSON STREET	
Year Bldg. Built	1942	Year Bldg. Removed	Not applicable
Current Land Use	Mixed Use-Lower Arsenal		Site Area (SqFt) 25677

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Store House/Engine Rebuild

Secondary DoD Uses
Fuel Storage Facilities

Post-Army Uses
None Identified

Flooring
Concrete

Disposal Information
None Listed

Activities (inside/outside)
Inside/Outside

Records Research Report Addenda Data

Assembly Rebuild included a Teardown and Cleaning Room with a caustic tank (6'x6'x4'), caustic tank (6'x3'x4'), acid tank (5'x5'x4') and a hot water tank (6'x6'x4'). Assembly included a solvent tank and a degreaser. Accessory Section included a 60 ton hydraulic press, caustic tank (1.5'x2'x1.5') and dichromate tank (1.5'x2'x1.5') (ref 714). In 1951, a gas fired boiler was installed and services included complete rehabilitation of worn Chevrolet engines. A 1952 survey report by Brown and Caldwell, indicated that there was a steam cleaning operation for engine blocks and performed degreasing and dipping operations. There was possible fuel storage in the dynamometer room. Drawing 5357, dated 5 August 1952 identifies three exhaust hoods (indicating processing tanks), dynamometer room, drain lines, and paint spray booth. Listed on a 1958 Map (ref 643).

Records Research Report Comments

In 1942, the building was used as a Store House. Sometime after 1945, the building used for Engine Rebuild Operations. There was a Service Pump and underground fuel tank associated with Building 31. The building also two dip tanks. Building is no longer present; platform remains. The gas pump was located adjacent to the east wall of Building 91 that abuts Building 31. Approximately 7 feet south of the gas pump are 2-inch gas tank vents and a gas gauge riser is located a few feet east of the vents. The pump is no longer present but the raised foundation of Building 31 remains. There is no indication of when the pump was removed. The building included a steam cleaning facility at the southeast end of the building.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army

PA Summary

DoD Site #

31

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	AST	US Army	0	Unknown	Unknown	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Drawing 5357 dated 5 August 1952 identifies three exhaust hoods indicating processing tanks.									
Vessel # 2	AST	US Army	0	Unknown	Unknown	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Drawing 5357 dated 5 August 1952 identifies three exhaust hoods indicating processing tanks.									
Vessel # 3	AST	US Army	0	Unknown	Unknown	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Drawing 5357 dated 5 August 1952 identifies three exhaust hoods indicating processing tanks.									
Vessel # 4	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility.									
Vessel # 5	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility.									
Vessel # 6	AST	US Army	0	Unknown	Acid	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments:									
Vessel # 7	AST	US Army	0	Unknown	Hot Water	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments:									
Vessel # 8	UST	US Army	1000	Steel	Diesel Fuel	Est. 1942	2004	Unknown	<input type="checkbox"/>
Uses: Fuel Storage Comments: This UST was part of a former fuel station that was later moved to Building 103 (across the street). The UST was located with geophysics and then removed by USACE in June 2004.									
Vessel # 9	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility.									
Vessel # 10	AST	US Army	0	Unknown	Dicromate	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dicromate Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility.									
Vessel # 11	Booth	US Army	0	Unknown	Paints	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Paint Booth Comments: Pre-1957 based on Reference 714, Equipment List for New Facility.									

Furthest Stage of Environmental Investigation

RI

COMMENTS

Many activities occurred in this building that could potentially impact the surrounding areas. One gas-fueled boiler was installed. (ref 1093). A UST associated with a service pump was along the east wall of Building 91/91A where it abuts Building 31. The service pump was previously removed. The UST was part of a former fuel station that was later moved to Building 103 (across the street). The 1,000-gallon diesel UST was located with geophysics and then removed in May 2004 by USACE. The UST had had numerous holes and the excavation pit filled with liquid as the UST was removed. Soil and groundwater samples were

PA Summary

DoD Site #

31

Area I

collected from the excavation pit. Groundwater was also collected downgradient of the former UST during the Expanded Site Inspection investigation. Groundwater samples in the excavation detected high levels of TPH-G, TPH-D, xylenes and ethylbenzene. Soil samples collected from the north and west walls of the excavation contained TPH-G, TPH-D, TPH-MO, and lead exceeding their ESLs and BSL. However, Building 91A and a planter box prevented overexcavating. Samples from the south wall of the excavation had much lower levels of TPH-G, TPH-MO and lead that did not exceed regulatory limits. Downgradient groundwater samples reported only low concentrations of diesel fuel, therefore, no overexcavating occurred to the south. The downgradient groundwater samples contained 0.0012 mg/L of cis-1,2-dichloroethylene.

RECOMMENDATIONS

A risk assessment is recommended for the residual fuels and solvents detected.

PA Summary

DoD Site #

42

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

0080-150-090

Owner Name

WHITEHEAD ROBERT & E

Site Address

941 GRANT STREET

Year Bldg. Built

1919

Year Bldg. Removed

Not applicable

Site Area (SqFt)

6053

Current Land Use

Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Garage/Repair Shop

Secondary DoD Uses

Fuel type

Post-Army Uses

None identified

Flooring

Unknown

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Assembly Rebuild included a Teardown and Cleaning Room with a caustic tank (7'x3'x4') and solvent washer (48"x36"). Power Train included three (3) hydraulic presses and a 60 ton hydraulic press (ref 714).

Records Research Report Comments

It is unknown when the building became renovated from a garage to a repair shop.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>

Uses: Caustic Tank

Comments: Pre-1957 based on Reference 714, Equipment list for new facility. Landowner suspected UST, Geophysical investigation performed and no indication of a UST was found.

Furthest Stage of Environmental Investigation

SI

COMMENTS

The current landowner suspected a UST was located near the former Boiler Building. A geophysical investigation performed in August 2004 did locate one anomaly. However this anomaly is not believed to be a tank, and no other indications of a UST were found (revert pipes).

PA Summary

DoD Site #

42

Area I

RECOMMENDATIONS

Based on the results of the geophysical investigation, no further DoD action is indicated for this site.

PA Summary

DoD Site #

45

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-150-130	WATSON KAREN ANN	983 GRANT STREET
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1872	Not applicable	10239
Current Land Use		
Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type
Housing

DoD Uses
Enlisted Men's Barracks

Secondary DoD Uses
Fuel type

Post-Army Uses
None Identified

Flooring
Wood

Disposal Information
None Listed

Activities (inside/outside)
Outside

Records Research Report Addenda Data
400-gallon fuel oil tank and burner installed in 1929 (ref 130).

Records Research Report Comments
Located north of Grant Street at Roosevelt

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	400	Unknown (likely steel)	Fuel oil	1929	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: No investigation can be conducted due scaffolding present in the area where the UST may be located. The landowner does not plan on taking down the scaffolding. Unknown if tank is still present.

Furthest Stage of Environmental Investigation

NONE

COMMENTS

Unknown what happened to the fuel tank. No investigation could be conducted during the Fuel only investigation in 2002 and the UST RA Investigation in June 2004 due to the landowner's renovation of the building. Currently, scaffolding is present in the area where the UST may be located. The landowner does not plan on taking the scaffolding down any time in the near future. The scaffolding prohibits any geophysical or exploratory work to find the UST. (ref 1063).

PA Summary

DoD Site #

45

Area I

RECOMMENDATIONS

Investigation into the location of the suspected UST is recommended. ROE was signed by landowner after several attempts by USACE, but the landowner was unwilling to remove the scaffolding. Until the scaffolding is removed, no further USACE actions can be conducted at this site.

PA Summary

DoD Site #

46(B)

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-150-290	ORMOND THOMAS R	938 ADAMS STREET
0095-721-100	GROSSMAN LAWRENCE I & SUSAN C	940 ADAMS STREET

Year Bldg. Built 1943 Year Bldg. Removed 1957-1962 Site Area (SqFt) 7691

Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type Administrative

DoD Uses Office Building

Secondary DoD Uses Fuel type

Post-Army Uses 1970-1976: District educational office for Benicia Unified School District (ref 587).

Flooring Concrete

Disposal Information None Listed

Activities (inside/outside) Inside

Records Research Report Addenda Data Building does not appear on the 1962 Building Zone List (ref 713).

Records Research Report Comments One 1,000-gallon fuel oil tank identified in the 1957 building inventory (ref 167).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST/UST (type unknown)	US Army	1000	Unknown (likely steel)	Fuel oil	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Tank was removed, date and exact location is unknown.

Furthest Stage of Environmental Investigation

SI

COMMENTS

The UST was included in the 1957 inventory documentation. The original Building 46(B) was moved and is the Benicia Yacht Club. The site has been renovated to accommodate a newer building after the original building was moved. A former Arsenal employee located the possible area of the fuel oil tank.

PA Summary

DoD Site #

46(B)

Area I

Geophysics was used to scan the area where the former Arsenal employee located the UST. No anomalies were identified that indicated the presence of any UST. Therefore, the tank is assumed to have been removed, but it is still unknown what type was once present

RECOMMENDATIONS

Based on the results of the geophysical investigation, no DoD action is indicated (NDAI) for this site.

PA Summary

DoD Site # 47
 Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-100	BENICIA INDUSTRIES INC	1200 ADAMS STREET
0080-150-140	COMMAND POST ASSOCIATES	1060 GRANT AVENUE

Year Bldg. Built 1870 Year Bldg. Removed Not applicable Site Area (SqFt) 35053

Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type Administrative

DoD Uses Storehouse/Office building

Secondary DoD Uses Fuel type

Post-Army Uses None Listed

Flooring Wood

Disposal Information None Listed

Activities (inside/outside) Inside

Records Research Report Addenda Data
400-gallon fuel oil tank installed in December 1929 to accompany an enterprise rotary oil burner installed in the furnace (ref 130).

Records Research Report Comments
Portions of building demolished by Benicia Industries. According to Buster Byerrum, a former Arsenal employee, a photographic laboratory was temporarily located in Building 47 prior to its final location in Building 92. The Army constructed several additions to the structure over the years. All additions have been removed by Benicia Industries, but the original structure remains.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	400	Steel	Fuel oil	1929	2004	No	<input type="checkbox"/>

Uses: Fuel Storage
 Comments:

Furthest Stage of Environmental Investigation
RI

COMMENTS
There are no records to substantiate the existence of the photo laboratory in Building 47 by Mr. Byerrum. A geophysical survey

PA Summary

DoD Site #

47

Area I

performed in May 2004 identified a fuel oil UST located on the west side of the building. A 400 gallon steel UST was uncovered. The UST appeared to be intact with no obvious holes or punctures except at the top of the tank where associated piping had already been removed. Rainwater and residual fuel were removed from the tank. Soil was not visibly impacted except where water from the tank splashed during removal of the water (soil impacted was removed). Analytical results were below regulatory limits. The USACE removed and properly abandoned the UST (UST RA, 2004).

RECOMMENDATIONS

No DoD action is indicated (NDAI) for the site and the UST.

PA Summary

DoD Site #

50

Area M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address	
0080-140-050	BENICIA CITY		
Year Bldg. Built	Pre-1945	Year Bldg. Removed	1954-1961
		Site Area (SqFt)	846
Current Land Use	Industrial-General		

OPERATIONAL HISTORY

DoD Use Type
Heavy Equipment Yard

DoD Uses
Paint Shop/Equipment Shop

Secondary DoD Uses
Unknown

Post-Army Uses
None Identified

Flooring
Unknown

Disposal Information
None Identified

Activities (inside/outside)
Inside/Outside

Records Research Report Addenda Data

According to the Case Closure Summary for SCDEM for record number 20030, a site investigation was conducted by Toyota Motor Sales, located at 1 Oak Road (located in the area of former Building 50) approximately 100 feet southwest of former OS14) (ref 494). Two tanks were removed and a soil investigation was conducted. A 3,000-gallon kerosene tank was removed on 5 January 1987 and a 10,000-gallon gasoline tank was removed on 14 February 1995. Six monitoring wells were installed. Soil and groundwater samples were collected. High concentrations of benzene, total petroleum hydrocarbons as gasoline, lead, and ethylbenzene were reported. The contaminated soil was excavated from the former kerosene tank site on 21 January 1987, and from the former gasoline tank site on 5 April 1995. The highest result in groundwater was 130 ppb TPH in a well nearest to the former kerosene tank. In May 1995, only one of the six wells contained groundwater. The SCDEM issued a UST site closure letter for these locations on 16 November 1995. No further investigation or action at this site was required (ref 494).

Records Research Report Comments

Located in the far southeastern portion of Area M near OS14. Records research offered little detail regarding operations in the heavy equipment yard. A paint shop (Building 50) and an equipment shop (Building 111) were located in this area and near Army Point. The (exact) construction dates for these buildings are unknown. Building 50 reportedly maintained a 500-gallon stove oil tank and two 5,500-gallon road oil tanks (ref 167). Presumably, these buildings were demolished by DoD prior to 1961, as none of these structures are listed in the 1961 Facility Data Sheet (ref 196), and no buildings remain today. Building appears on a 1954 map (ref 646).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army

PA Summary

DoD Site #

50

Area M

Vessel Inventory

	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	AST or UST?	Unknown	500	Unknown	Stove Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>
	Uses: Oil Storage								
	Comments:								
Vessel # 2	AST or UST?	Unknown	5500	Unknown	Road Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>
	Uses: Oil Storage								
	Comments:								
Vessel # 3	AST or UST?	Unknown	5500	Unknown	Road Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>
	Uses: Oil Storage								
	Comments:								
Vessel # 4	UST	Unknown	3000	Unknown (likely steel)	Kerosene	Post 1964	01/05/87	Unknown	<input checked="" type="checkbox"/>
	Uses: Fuel Storage								
	Comments: Site investigation by Toyota Motor Sales. Contaminated soil excavated, site closed on 16 Nov. 1995.								
Vessel # 5	UST	Unknown	10000	Unknown (likely steel)	Gasoline	Post 1964	04/05/95	Unknown	<input checked="" type="checkbox"/>
	Uses: Fuel Storage								
	Comments: Site investigation by Toyota Motor Sales. Contaminated soil excavated, site closed on 16 Nov. 1995.								

Furthest Stage of Environmental Investigation

RI

COMMENTS

According to ref 167, the building was present in 1957 and was an office for the Heavy Equipment Yard. The USTs that were removed and investigated in 1987 through 1995 are assumed not to be the same tanks associated with the former Building 50 oil storage tanks since the sizes are not the same. The post-Army USTs are closed to further regulatory action. According to the case closure summary (ref 1029), oil and grease were not analyzed in the soil or groundwater. Additionally, it is not known if the oil tanks were ASTs or USTs. Groundwater was sampled during the Expanded Site Inspection investigation in 2004. MTBE and xylenes were detected.

RECOMMENDATIONS

A geophysical investigation is recommended to determine if there are still USTs present.

PA Summary

DoD Site #

53

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-280-050	HISTORIC ARSENAL PARK LTD	985 LINCOLN ROAD
Year Bldg. Built	1942; Circa 1940s	Year Bldg. Removed
		Not applicable
Current Land Use	Mixed Use-Lower Arsenal	Site Area (SqFt)
		2250

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Dynamometer Shop/Engine Testing/Fuel storage

Secondary DoD Uses
Fuel Storage Facilities

Post-Army Uses
Machine shop for Roberto Flores from 1969 to 1977. The Building currently being used as a machine shop.

Flooring
Concrete

Disposal Information
None Listed

Activities (inside/outside)
Inside and outside

Records Research Report Addenda Data
Plans were drawn on 9 April 1942 for the fuel storage installation at the Dynamometer Shop.

Records Research Report Comments
Former storage of oil, paints, varnishes, and alcohol. A drawing submitted 17 January 1951 details the existing underground gasoline storage facilities. There was a tank with base dimensions of 45 inches by 143 inches with a gas line to the two dynameters in the building (ref 381). The UST is outside the east end of the building.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
3	UST	US Army	4000	Steel	Gasoline	Unknown	2002	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Location of this UST corresponds to results from the geophysical survey and historical records reviewed in the RRR (BC Ref 1077). Removed in 2002 (BC Ref 1125).

Furthest Stage of Environmental Investigation
RI

COMMENTS
In March 1999, a geophysical survey was conducted to assess the presence of a suspected 1,000-gal diesel UST and a 10,000-gal gasoline UST and associated piping, reportedly installed as part of the Bldg 53 fueling system beneath the SW corner of Bldg

PA Summary

DoD Site #

53

Area I

56A. Geophysical survey was inconclusive (ref 1207). Additionally, in March 1999, the USACE excavated two test pits and found a 4,000-gal UST and associated piping tracing from the UST to the western wall of Bldg 53, where the piping ended. It is unknown if these pipes are connected to another set of USTs beneath Bldg 56A or once directly connected to the Building 154 tank system (ref 1060). Presence of gasoline and diesel fuel confirmed in soil and groundwater. Lead confirmed in soil above residential PRG concentrations but less than industrial PRGs (ref 1060). Between March and April 2002, the USACE removed the 4,000-gallon UST, associated product piping. The UST was removed and soil samples were collected beneath the former tank and product piping. Diesel fuel, gasoline, motor oil, lead, ethylbenzene, toluene, and xylenes were detected in soil. RBSLs for soil were exceeded. M,p-xylenes, gasoline, diesel fuel, JP-5, and lead were detected in groundwater. There is no historical record indicating that JP-5 was ever used or stored at the Arsenal (ref 1125). In 2004, during the Expanded Site Inspection investigation, the groundwater around Building 53 was sampled. Fuels and lead in groundwater were delineated.

RECOMMENDATIONS

A risk assessment is recommended for the fuels and lead in groundwater.

PA Summary

DoD Site #

54

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address	
0080-130-020	BENICIA CITY		
Year Bldg. Built	1939	Year Bldg. Removed	Post 1977
Current Land Use	Industrial-Waterfront		
		Site Area (SqFt)	1647

OPERATIONAL HISTORY

DoD Use Type

Utilities

DoD Uses

Pump House-Water/Store House

Secondary DoD Uses

Fuel type

Post-Army Uses

Storage of marine equipment for Marine Service, Inc from 1969 to 1977 (refs 587 and 702).

Flooring

Concrete

Disposal Information

None Listed

Activities (inside/outside)

Inside and Outside

Records Research Report Addenda Data

Drawing 2757 dated 15 January 1944 (ref 635) details the Army Point pumping plant (presumed to be Building 54) and identifies a 550-gallon gasoline tank that fueled four pumps equipped with gasoline engines. Early drawings also identifies this area as a detonation storehouse and a proving ground for gunpowder (in use at the turn of the century).

Records Research Report Comments

Two pumps were installed in Building 54 that have a capacity of 3,000 gpm each. Listing shows these pumps were diesel. There were a total of 7 pumps identified between Building 64 and 54, four of which were diesel. The other two appear to belong to Building 64 with a total capacity of 8,750 gpm. (ref 718)

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST	US Army	550	Unknown (likely steel)	Gasoline	Pre 1944	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Fueled four pumps equipped with gasoline engines. Tank stand remains. AST removed.

Furthest Stage of Environmental Investigation

SI

COMMENTS

Records Research was unclear on where and how many tanks/pumps were located at this building and between Buildings 54 and

PA Summary

DoD Site #

54

Area I

64. The site was identified by the USACE for investigation because of the possible impacts any leaks from the AST. During the planning process, a field visit of the site determined that the tank was an AST. The cradles for the AST still exist. In June 2000, soil samples were collected from two hand auger borings between the cradles. No groundwater was encountered. During the subsurface investigation, no odors, staining, PID readings or other field investigations of fuel leakage from the former AST were observed. Diesel fuel and motor oil were detected in surface soil samples (maximum concentration of 32 mg/kg and 300 mg/kg, respectively). No further action under the FUDS program is recommended (ref 1063). The Records Research Report indicated that early drawings also identifies this area as a detonation storehouse and a proving ground for gunpowder (in use at the turn of the century). This area has been highly developed and the likelihood of any explosives is very low.

RECOMMENDATIONS

No investigation is recommended for the possible explosives.

PA Summary

DoD Site #

58(A)

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-280-030	HISTORIC ARSENAL PARK LTD	900 JACKSON STREET
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1900s	1932-1944	2341
Current Land Use		
Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Small Arms Repair and Retinning/Boiler Room

Secondary DoD Uses
None Listed

Post-Army Uses
None Listed

Flooring
Unknown

Disposal Information
Unknown

Activities (inside/outside)
Inside

Records Research Report Addenda Data

In the early 1900's, Building 58(A) served as a facility for loading projectiles with explosive powder. The original boiler room was presumably removed at about the time Building 56A was constructed in 1944. A letter to the Commanding Officer at the Arsenal, from the Inspector General, dated April 3, 1908 discussed the dust from the ramming of Explosive D into projectiles in the shop boiler room. The dust was described as "very disagreeable and must prove injurious to the energy of employees inhaling it for a long period" (ref 206). Jim Milburn recalled this building used as a boiler room during his tenure.

Records Research Report Comments

Removed by DoD. Building also used as a tinning plant and small arms repair. Over 1,100 armor-piercing shells were loaded, as were nearly 2,000 pounds of D.P Shells. Building shows up on a 1932 Map (ref 651).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST or UST?	US Army	0	Unknown (likely steel)	Fuel oil	1900s	Prc 1944	No	<input type="checkbox"/>

Uses: Fuel Storage

Comments: This tank was not listed in the Records Research Report. However, boiler houses required a fuel source. Based on other boiler houses during this time period, it was likely that a fuel tank was located in the area and may be the same one for B65(A).

Furthest Stage of Environmental Investigation

RI

PA Summary

DoD Site #

58(A)

Area I

COMMENTS

Building 56A was built over the former Building 58(A). USACE conducted a geophysical survey in March 1999 to evaluate the thickness of Building 56A concrete slab and to plan for sampling activities in order to avoid underground piping and utilities. Underground utilities were not identified and the thickness of the slab could not be determined. This survey did not identify any features that would indicate the presence of former Building 58(A) or any associated UST for the boiler house (ref 1207). In 1999, USACE collected soil beneath the concrete floor of Building 56A in the area of the former Building 58(A). Hydrocarbons were reported in the soil samples. The source of the contamination could not be totally attributed to former Building 58(A) because an known source of TPH approximately 50 feet away at Building 154, a former UST site. Depth to groundwater is less than 5 feet. During the 2004 Expanded Site Inspection investigation, TPH, lead and PAHs were laterally and vertically defined in soil and groundwater. Fuels and PAHs were below their respective ESLs/BSLs. Lead was detected in soil at 7560 mg/kg, above the BSL of 750 mg/kg.

RECOMMENDATIONS

The lead concentration in soil should be evaluated in a risk assessment.

PA Summary

DoD Site #

64

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN) 0080-130-020	Owner Name BENICIA CITY	Site Address
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Year Bldg. Built	1939	Year Bldg. Removed	Not applicable	Site Area (SqFt)	1231
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Current Land Use Industrial-Waterfront

OPERATIONAL HISTORY

DoD Use Type
Utilities

DoD Uses
Pump House

Secondary DoD Uses
Fuel Type

Post-Army Uses
None Identified

Flooring
Unknown

Disposal Information
None Listed

Activities (inside/outside)
Inside

Records Research Report Addenda Data
Water for fire protection.

Records Research Report Comments
There were a total of 7 pumps identified between Building 64 and 54, four of which were diesel. Two pumps appear to belong to Building 64 with a total capacity of 8,750 gpm.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	ASTs	US Army	0	Unknown	Unknown Fuel	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Unknown how many ASTs were used to power pumps.

Furthest Stage of Environmental Investigation
NONE

COMMENTS
Records Research is unclear as to the exact amount of tanks/pumps associated with this building or if they are still exist. Pumping Plant 64 switched to standby with a capacity of 6,000 gpm upon completion of Highway Bridge and Waterline in 1962 (ref 1093). Tanks were not listed in the 1957 inventory (ref 167). Field check on 3/25/2004, the building is no longer present,

PA Summary

DoD Site #

64

Area I

other buildings and structures (Valero pipelines) have covered the area, and there is no evidence of ASTs. The site is adjacent to the Carquinez Strait.

RECOMMENDATIONS

No further action is indicated.

PA Summary

DoD Site #
 65(B)
 Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address	
0080-280-030	HISTORIC ARSENAL PARK LTD	900 JACKSON STREET	
Year Bldg. Built	Pre 1932	Year Bldg. Removed	Not applicable
Current Land Use	Mixed Use-Lower Arsenal		
	Site Area (SqFt)	1324	

OPERATIONAL HISTORY

DoD Use Type
 Industrial/Manufacturing Shops

DoD Uses
 Boiler House

Secondary DoD Uses
 None Listed

Post-Army Uses
 None Listed

Flooring
 Concrete (currently)

Disposal Information
 In 1999, soil was removed from the boiler house floor by the landowner and spread out in a breezeway between Building 56B and 56A.

Activities (inside/outside)
 Unknown

Records Research Report Addenda Data
 Text in Records Research Report was listed as Building 65(A). Two boilers have been removed by the property owner. (In 1999, soil was removed from the boiler house floor by the landowner and spread out in a breezeway between Building 56B and 56A. Then the floor of the Building 65(B) was filled in with concrete to grade.)

Records Research Report Comments
 (A former Arsenal employee stated that a former machine gun test firing range was located in the area of a courtyard adjacent to Building 65(B)).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	0	Unknown	Fuel Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Geological survey identified parabolic reflections beneath the concrete floor that may indicate the presence of USTs. However, there is a buried concrete floor that may be the cause of the reflections.

Furthest Stage of Environmental Investigation
 SI

COMMENTS
 A geophysical survey conducted by USACE in March or May of 1999 located suspected USTs associated with the former

PA Summary

DoD Site #

65(B)

Area I

Building 65(B) Boiler House. There were subtle parabolic reflections beneath the concrete floor. Evidence for the presence of USTs is inconclusive. If the parabolic reflections are USTs, it is estimated to be between 15,000 and 20,000 gallons in size (ref 1207). The USTs, if present, would be beneath 2 separate concrete floors. (The second concrete floor may be the cause of the parabolic reflections). During the 1999 investigation, the USACE and regulators agreed that limited access and the complex floor structure would be unfeasible to try and find the USTs or even drill a boring in the area. Therefore, one boring located in courtyard, approx 20 feet west, was deepened and fuel-related compounds were added to the samples for chemical analysis.

RECOMMENDATIONS

A risk assessment should be performed.

PA Summary

DoD Site #

71

Area I

NDAI FAR IRR Potential OE

TE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-140	BENICIA INDUSTRIES INC	1052 TYLER STREET
Year Bldg. Built	1920	Year Bldg. Removed
		1980's
Current Land Use	Industrial-Waterfront	
	Site Area (SqFt)	86417

PERATIONAL HISTORY

DoD Use Type

Warehouses and Warehouses

DoD Uses

Artillery and Ordnance Material Storehouse

Secondary DoD Uses

Fuel type, ordnance

Post-Army Uses

1977: leased to Leyland Motor Sales, Inc. for office, storage and other purposes associated with tenants business of foreign made motor vehicles (ref 702). Currently vacant and used for vehicle storage. Benicia Industries has plans to build a rice warehouse.

Geology

Inspection Report 26 April 1926 listed dirt floor

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Building constructed with footings on wood pilings and in 1926 the wood pilings were cut off below the groundwater level and supported by concrete piers due to settling problems. A 1937 report identified the construction of reinforced concrete buttresses on the exterior wall to control outward movement. 9 buttresses were supported by three wood pilings (ref 133). In 1950, new gas mains were installed and an oil furnace was converted to natural gas (ref 151). Jim Milburn, a former Arsenal employee, called that there was an inner room associated with this building and a UST had supplied fuel for the heat source. According to a Historical Summary for the period of 7/1/50 to 12/31/50, contracts were awarded to convert fuel oil furnaces in Buildings 88 and 89 to natural gas (ref 151). According to a Project Estimate for fiscal year 1955, the existing storm drain pipe between Buildings 71 and 73 was in need of repair. Due to the acid condition of the original swamp land, the pipe had deteriorated and silt had seeped in until the pipe could not carry run off water which ended up accumulating on the surface destroying the paved roadway. The existing "CMP" pipe was replaced with transite pipe. Project completed in first half of 1955 (ref 157).

Records Research Report Comments

Reportedly, fuel oil was used for the heat source. Demolished in 1980's by Benicia Industries. Constructed over a possible Arsenal Landfill (see Fillsite 1 in Area I). Building originally used for the storage of field guns and parts, miscellaneous ordnance material and paints. In 1936 the US Army conducted a study of soil conditions in the Building 71 area. There was the presence of a ravine starting at the northwest corner located 40 feet below grade and extending diagonally across the building to the south end at a point about the center of the second section B of the building where hard bottom is 68 feet below grade.

PA Summary

DoD Site #

71

Area I

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	0	Unknown	Diesel	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Former Arsenal employee stated that tank was there. Unknown of size, and location.

Furthest Stage of Environmental Investigation

SI

COMMENTS

The location or status of the fuel oil tank is unknown. There were no anomalies found during the Fillsite 1 Geophysical Survey that would indicate a buried UST and none found during the excavations. Therefore, the UST may have been removed or located along Tyler Street (outside of the geophysical survey). An additional geophysical survey was conducted along Tyler Street to investigate the presence of the suspected UST (May 2004). No indications of a UST were found therefore it is likely that the tank has been removed. Other than the UST, there are no environmental concerns associated with former DoD activities using the building for storage.

RECOMMENDATIONS

Based on the results of the geophysical investigation, no DoD action is indicated (NDAI) for this building (site).

PA Summary

DoD Site # 72
 Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-222-030	CAMBRA WILLIAM H & BERNADETTE	915 JEFFERSON STREET
0080-222-040	STINMEYER A J III & C T	909 JEFFERSON STREET
0080-222-050	CHERNOCK MITCHELL S	891 JEFFERSON STREET

Year Bldg. Built 1922 Year Bldg. Removed 1971-1978 Site Area (SqFt) 4651
 Current Land Use Residential-Medium Density

OPERATIONAL HISTORY

DoD Use Type Hospital

DoD Uses Hospital/Infirmary

Secondary DoD Uses Fuel type

Post-Army Uses None Identified

Flooring Concrete and wood

Disposal Information None Listed

Activities (inside/outside) Inside

Records Research Report Addenda Data
 A drawing dated 18 March 1920 identifies a boiler room, a laboratory and x-ray room, and a dispensary. Also included in the drawing is a plot plan identifying the water main and sewer hook-ups (ref 652). The building also contained an office, operating room, sterilizing room, kitchen, ward (10 beds), two private rooms, utility kitchen, two lavatories and a fuel oil fired steam heater (ref 130). Records indicate that a fuel storage tank was installed in 1929 to supply an Enterprise Rotary Oil Burner (ref 130). 1946 plans show the x-ray darkroom, the tank with a connection to the drain, the x-ray room, and the film developing cabinet (ref 383). Drawing 5208, dated 20 February 1952, identifies the replacement of plumbing facilities at Building 72. Included on the drawing was a boiler room with a sump located adjacent to the boiler, oil or waste lines, sump return lines, and natural gas lines (ref 369).

Records Research Report Comments
 Fuel oil tank installed in furnace in 1929. Converted to natural gas in 1950. Building appears on a 1958 Map (ref 643). Building no longer present.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST	US Army	0	Unknown	Fuel oil	1929	Unknown	No	<input type="checkbox"/>

Uses: Fuel Storage

Comments: AST installed in former building.

PA Summary

DoD Site #

72

Area I

Vessel Inventory

Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 2 AST	US Army	0	Unknown	Developers	Unknown	Pre 1964	No	<input type="checkbox"/>

Uses: X-ray Developing

Comments:

Furthest Stage of Environmental Investigation

NONE

COMMENTS

The building is gone. Therefore the "fuel tank installed in the furnace" is also gone. Any developing tank associated with former X-ray has been removed. Two existing buildings overlie the former building.

RECOMMENDATIONS

Post-Army use occurred until at least 1971. Sewage lines that have been in use since closure of the former Arsenal are considered to provide beneficial use to the current owners. Pursuant to Chapter 3, Section 7.2.3.5 of USACE Engineering Circular EC-200-3-7, DERP-FUDS Program Manual, dated 30 September 1999, beneficially used facilities are ineligible for investigation under the FUDS Program.

PA Summary

DoD Site #

73(A)

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address	
0080-140-160	UNICO INDUSTRIAL SERVICESCO	1209 POLK ROAD	
Year Bldg. Built	1920	Year Bldg. Removed	Not applicable
Current Land Use		Site Area (SqFt)	200
Mixed Use-Lower Arsenal			

OPERATIONAL HISTORY

DoD Use Type

Fuel Storage Facilities

DoD Uses

Service Station and Scales

Secondary DoD Uses

Fuel type

Post-Army Uses

The southeastern corner of Building 98 currently occupies the area where Building 73(A) was located. Post closure activities listed for Building 98 included: manufacturing of bed frames for Harvard Manufacturing. 1967-1981: Harvard Manufacturing for manufacture of bed frames (refs 425, 579 and 587). Currently a machine shop for Unico Services, Inc.

Flooring

Concrete

Disposal Information

None Listed

Activities (inside/outside)

Outside

Records Research Report Addenda Data

According to a Project Estimate for fiscal year 1955, the existing storm drain pipe between Buildings 71 and 73 was in need of repair. Due to the acid condition of the original swamp land, the pipe had deteriorated and silt had seeped in until the pipe could not carry run off water which ended up accumulating on the surface destroying the paved roadway. The 500 linear feet of the existing pipe was replaced with 960 linear feet of asbestos cement pipe. The project was completed in the first half of 1955 (ref 157).

Records Research Report Comments

Equipment installed included a 15-ton Fairbanks wagon or truck scale, 1,000-gallon gasoline tank, battery of three pumps and tanks for oils, and a 5-gallon capacity gasoline pump. Records do not show when the building was removed. Records Research indicated that several former employees stated that it was unlikely that DoD had removed any of the former fuel storage facilities.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	1000	Unknown (likely steel)	Gasoline	1920s	Pre 1942	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Not found in 1999.

PA Summary

DoD Site #

73(A)

Area I

Vessel Inventory

	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 6	AST	US Army	0	Unknown (likely steel)	Oils	1920s	Pre 1942	Unknown	<input type="checkbox"/>
Uses: Oil Storage Comments: Building removed.									
Vessel # 7	AST	US Army	0	Unknown (likely steel)	Oils	1920s	Pre 1942	Unknown	<input type="checkbox"/>
Uses: Oil Storage Comments: Building removed.									
Vessel # 8	AST	US Army	0	Unknown (likely steel)	Oils	1920s	Pre 1942	Unknown	<input type="checkbox"/>
Uses: Oil Storage Comments: Building removed.									

Furthest Stage of Environmental Investigation

SI

COMMENTS

In March 1999, the USACE conducted a geophysical survey and excavated two test pits to assess the possible presence of a 1,000-gal UST and associated piping. No UST or piping was found in the test pit at former Bldg 73 (ref 1077). No hydrocarbons reported in soil samples from the test pit excavated at former Building 73. Hydrocarbons, chlorinated VOCs, and PAHs were found in groundwater. Because there were no contaminants detected in the soil, the chemicals detected in the groundwater were concluded to have a different source.

RECOMMENDATIONS

No further action under FUDS is recommended for the reported UST (ref 1077). The source of the groundwater contamination is not Building 73(A), but should be determined.

PA Summary

DoD Site #

88

Area 1

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN) 0080-140-400 Owner Name ALLEN DAVID W Site Address 1050 JACKSON STREET

Year Bldg. Built 1942 Year Bldg. Removed Not applicable Site Area (SqFt) 15801

Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type Storehouses and Warehouses

DoD Uses Storehouse

Secondary DoD Uses Fuel type

Post-Army Uses Storage of household goods for Metropolitan Van and Storage from 1971 to 1981 (ref 587). Current use of building is unknown.

Flooring Unknown

Disposal Information None Listed

Activities (inside/outside) Inside

Records Research Report Addenda Data According to a Historical Summary for the period of 7/1/50 to 12/31/50, contracts were awarded to convert fuel oil furnaces in Buildings 71, 88 and 89 to natural gas (ref 151).

Records Research Report Comments Former fuel oil furnace converted to gas in 1950 (ref 151). Historical records do not indicate the uses maintained in the building.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1 AST	US Army	0	Unknown	Fuel oil	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments:

Furthest Stage of Environmental Investigation

SI

COMMENTS

Unknown the status or locations of the AST or UST associated with the former fuel oil furnace. A site visit in 2004 did not identify any existing ASTs or indications of a historical AST location. During the 2004 Expanded Site Inspection investigation, borings downgradient from this AST were sampled. Any possible environmental impacts are addressed in the Expanded Site Inspection report.

PA Summary

DoD Site #

88

Area I

RECOMMENDATIONS

No further DoD action is indicated.

PA Summary

DoD Site #
89
 Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-140	BENICIA INDUSTRIES INC	1052 TYLER STREET
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1942	Not applicable	21640
Current Land Use Industrial-Waterfront		

OPERATIONAL HISTORY

DoD Use Type
Storehouses and Warehouses

DoD Uses
Storehouse

Secondary DoD Uses
Fuel type

Post-Army Uses
1973: Fabrication of shipping containers for Container Fabricators, Inc. (ref 418). British 1973: Motor Car Distributors, Ltd., for office and storage (ref 425). 1977: Leased to Cal Auto for foreign car processors and Leyland Motors for storage, office and other purposes associated with tenants business of foreign made vehicles (ref 702). Now used by Benicia Industries for vehicle maintenance (ref 597).

Flooring
Unknown

Disposal Information
None Listed

Activities (inside/outside)
Inside

Records Research Report Addenda Data
According to a Historical Summary for the period of 7/1/50 to 12/31/50, contracts were awarded to convert fuel oil furnaces in Buildings 71, 88 and 89 to natural gas (ref 151).

Records Research Report Comments
Partially recessed gasoline AST with accompanying gas pump housed on north side of building. Benicia Industries currently using the AST and gas pump (original owner unknown). According to Phil Plant from Benicia Industries, Benicia Industries did not install the AST but was used by them until 1997. The AST was removed and replaced with another AST on the east side of the building, 50 feet from former location. A 1952 report indicated that there were sewer system deficiencies in the area of Buildings 56, 57, 89, and 161 which frequently needed rodding to keep the sewage lines open.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST	Benicia Industries	0	Unknown	Gasoline	1997	Unknown	Yes	<input checked="" type="checkbox"/>

Uses: Fuel Storage

Comments: AST installed by current landowner. Replaced another AST located on the east of the building 50 feet from former location.

PA Summary

DoD Site #

89

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
2	AST	Unknown	0	Unknown	Gasoline	Unknown	1997	Yes	<input type="checkbox"/>

Uses: Fuel Storage

Comments: AST removed by current landowner. Unknown if this AST was fueled the furnace installed by the DoD. Unknown original owner.

Furthest Stage of Environmental Investigation

SI

COMMENTS

Post-Army vehicle maintenance activities occurring in building. There are no records indicating any possible environmental concerns in regards to former DoD activities in this building. The likely location of the former AST was identified at the northeast corner of the building. This AST was removed in 1997. During the 2004 Expanded Site Inspection investigation, borings downgradient from this AST were sampled. Any possible environmental impacts are addressed in the Expanded Site Inspection report.

RECOMMENDATIONS

No further DoD action is indicated.

PA Summary

DoD Site #

91A

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-170	J R SCHNEIDER CO INC	849 JACKSON STREET
Year Bldg. Built	1951	Year Bldg. Removed
		Not applicable
Current Land Use	Mixed Use-Lower Arsenal	
	Site Area (SqFt)	27266

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Temporary Machine Shop/Engine Rebuild

Secondary DoD Uses
Fuel type

Post-Army Uses
Fabrication of electrical signs for Farn Reed (ref 425). Kaiser Steel Corp from 1974 to 1977 for storage of furniture and household goods (refs 587 and 702). Fibreboard Corp from late 1973 to 1977 for the manufacture of plastic pipes (refs 425, 587, and 702). 1977: Clark Industrial Machinery Co. as a machine shop. Currently used by J.R. Schneider Company, Inc. for manufacture of filtration systems.

Flooring
Concrete

Disposal Information
Unknown

Activities (inside/outside)
Inside

Records Research Report Addenda Data
In a 1952 Brown and Caldwell survey, reported operations included steam cleaning of small parts, degreasing, dipping, and painting (ref 405). Drawing 6334, dated 21 March 1960 shows the relocation of the blast cleaning apparatus in the southeast corner and identifies a dust collector, blast barrel, grit reclaimer, roto-blast unit, existing cold well and hot well, existing baking oven, and paint booth (ref 626). Building 91Add was added to Building 91 in 1951 to assist in the combat vehicle rebuilding efforts. Drawing 4685 dated 18 August 1950 identifies the fabrication specifications for the tanks to be used in the power train rebuild operations. Included are paint strip tank (2), steam jet tank (2), acid tank (2) and water rinse tank (2). All tanks were to be constructed of black iron except the acid tank which was to be constructed of stainless steel (ref 714). Drawing 4177 dated 20 December 1950 identifies the acid, rinse, degreaser, steam, and strip tanks in the center of the west side of the addition to the building. Paint booths were to be located adjacent to the future gas fired ovens on the opposite side of the building from the tanks. Catch basins are also identified (ref 628).

Records Research Report Comments
Machine shop moved to Building 98 in 1952. According to an article in the Benicia Bomber, dated February 1951, the Power Train Rebuild Branch was responsible for the repair, rebuild and replacement of the inner components of transmissions, transfer cases, rear and front axles, prop shafts, power take offs, steering gears, and winches for Dodge, GMC, Chevrolet, International, and Jeep truck, pickup, and passenger vehicles. There was a four step cleaning process that included: 1) an alkali compound, 2) a caustic solution, 3) phosphoric acid, and 4) hot water tanks for rinsing. When the parts were dry, they were brought to the assemblers and to the test stands. Following an approved test run, the reassembled parts would be taken to the paint booths and on to the processing department. New steam and cleaning vats were just installed in the power train section at the time the article was written (ref 135).

PA Summary

DoD Site #

91A

Area I

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	Booth	US Army	0	Unknown	Paints	1950	Unknown	Unknown	<input type="checkbox"/>
Uses: Paint booth Comments: Exact location unknown. Removed									
Vessel # 2	Booth	US Army	0	Unknown	Paints	1950	Unknown	Unknown	<input type="checkbox"/>
Uses: Paint booth Comments: Exact location unknown. Removed									
Vessel # 3	Booth	US Army	0	Unknown	Paints	1960	Unknown	Unknown	<input type="checkbox"/>
Uses: Paint booth Comments: Exists today									
Vessel # 4	AST	US Army	0	Black Iron	Solvents	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Degreaser Dip Tank Comments: Exact location unknown. Removed									
Vessel # 5	Booth	US Army	0	Unknown	Water	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Steam booth Comments: Location known. Removed									
Vessel # 6	Booth	US Army	0	Unknown	Water	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Steam booth Comments: Location known. Removed									
Vessel # 7	AST	US Army	0	Black Iron	Unknown	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Strip Tank Comments: Location known. Removed									
Vessel # 8	AST	US Army	0	Black Iron	Unknown	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Strip Tank Comments: Location known. Removed									
Vessel # 9	AST	US Army	0	Black Iron	Water	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Steam Tank Comments: Location known. Removed									
Vessel # 10	AST	US Army	0	Black Iron	Unknown	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Steam Tank Comments: Location known. Removed									
Vessel # 11	AST	US Army	0	Stainless Steel	Acid	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Location known. Removed									
Vessel # 12	AST	US Army	0	Stainless Steel	Acid	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Location known. Removed									
Vessel # 13	AST	US Army	0	Black Iron	Water	Post 1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Rinse Comments: Location known. Removed									

PA Summary

DoD Site #

91A

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
14	AST	US Army	0	Black Iron	Water	Post 1951	Unknown	Unknown	<input type="checkbox"/>

Uses: Rinse

Comments: Location known. Removed

Furthest Stage of Environmental Investigation

RI

COMMENTS

Drawings are available that show the location of process tanks in this building. The tanks no longer exist. Features remain inside the building (holes in roof for exhaust hoods that once covered the process tanks). During the 2004 Expanded Site Inspection investigation, groundwater was sampled downgradient of the building. Cis-1,2 DCE was detected at a concentration of 1.3 ug/L.

RECOMMENDATIONS

A risk assessment is recommended on detected contaminants.

PA Summary

DoD Site #

103

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

Owner Name

Site Address

0080-280-010

HISTORIC ARSENAL PARK LTD

920 JACKSON STREET

Year Bldg. Built

1943

Year Bldg. Removed

Not applicable

Site Area (SqFt)

403

Current Land Use

Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Fuel Storage Facilities

DoD Uses

Service station/office building

Secondary DoD Uses

Fuel type

Post-Army Uses

None Identified. Building currently vacant.

Flooring

Concrete

Disposal Information

None Listed

Activities (inside/outside)

Inside/Outside

Records Research Report Addenda Data

Records from 1951 expressed the need to relocate the facility from the center of the existing shop area. A project estimate dated 18 August 1951, a request was made to remove existing building and relocate the station, pumps, island, and buried storage tanks (ref 16). No record of move being completed. Records indicate that service station was still used in 1953 following the reassignment of all motor pool activities to Area M.

Records Research Report Comments

This area had 1 gasoline tank, 1 kerosene tank and a fueling island (ref 167). Area became congested with tanks, vehicles and fork lifts. Area used primarily for maneuvering transport and combat vehicles entering the shops for servicing. UST was located in an area where salt water seepage occurred and it became corroded and pitted that a replacement would be necessary (ref 19).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	15000	Steel	Gasoline	Unknown	2002	Unknown	<input type="checkbox"/>
Uses: Fuel Storage Comments: UST removed in 2002 (BC Ref 1079).									
2	UST	US Army	3000	Unknown (likely steel)	Kerosene	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Fuel Storage Comments: Records Research is not clear if this tank is a UST or an AST or the location. Tank was not found during geophysical survey in May 1999. Tank is likely associated with former Building 161 (BC Ref 1077).									

PA Summary

DoD Site #

103

Area I

Furthest Stage of Environmental Investigation

RI

COMMENTS

In May 1999, the USACE conducted a geophysical survey and excavated three test pits to locate a suspected 15,000-gal UST and a 3,000-gal kerosene UST and associated piping. The 15,000-gal UST and associated piping was uncovered, whose location corresponds to results from the RRR. A set of three pipes was traced from the UST to a fillport. The 3,000-gal kerosene UST and associated piping was not found during this investigation. It is likely that the kerosene tank was actually installed at the building next door, Building 161, and wrongly associated with Building 103 (ref 1077). The presence of hydrocarbons and lead in soil was confirmed. Groundwater was not encountered in May 1999. The report recommended further investigation to assess lateral extent of petroleum hydrocarbons in soil and to assess presence of petroleum hydrocarbons, VOCs, and PAHs in groundwater (ref 1078). Between March and April 2002, the USACE removed the UST, associated product piping, and collected soil samples beneath the former tank and product piping. Benzene, gasoline, diesel fuel, motor oil, lead, and JP-5 were detected in soil. Diesel fuel and motor oil concentrations were detected above the regulatory limits in soil (maximum concentration of 500 and 2,300 mg/kg, respectively). While there is no historical record indicating that JP-5 was ever used or stored at the Arsenal, another fuel, such as kerosene, falls within the same carbon range. Benzene and other fuel related compounds were reported in a groundwater sample collected from the excavation. Benzene was reported at 7 ug/L. Gasoline was also reported in the groundwater sample at 3,100 ug/L (ref 1079). During the 2004 Expanded Site Inspection investigation, the soil contamination was delineated.

RECOMMENDATIONS

A risk assessment is recommended on contaminants detected in soil and groundwater.

PA Summary

DoD Site #

118(A)

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-450	BENICIA INDUSTRIES	981 BAYSHORE ROAD
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
Pre-1944	1951-1961	311
Current Land Use	Industrial-Waterfront	

OPERATIONAL HISTORY

DoD Use Type
Fuel Storage Facilities

DoD Uses
Diesel tank, Fuel Oil Tank, Oil Storage Tank

Secondary DoD Uses
Fuel Type

Post-Army Uses
None Identified

Flooring
Asphalt (currently)

Disposal Information
None Listed

Activities (inside/outside)
Unknown

Records Research Report Addenda Data

Drawing 2194 dated 19 February 1944 identifies an existing locomotive fuel oil tank and a proposed grade 1-B AST for oil storage. A September 1945 map identifies Building 118A as a 10,000 gallon diesel tank. The other two mentioned tanks are located in the same vicinity as the 10,000 gallon diesel tank. A 1951 aerial photograph shows three ASTs. The three ASTs were not included in the 1961 inventory of buildings. It is presumed that the tanks were removed prior to 1961.

Records Research Report Comments

A 10,000 gallon diesel tank was located prior to Building 90 and was later moved to the area west of Building 91 (see Building 152 for the AST west of Building 91).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST	US Army	0	Unknown	Fuel Oil	Pre 1941	Pre 1961	No	<input type="checkbox"/>
Uses: Fuel Storage Comments: Size Unknown									
2	AST	US Army	0	Unknown	Oil	Pre 1941	Pre 1961	No	<input type="checkbox"/>
Uses: Fuel Storage Comments: Size unknown									

PA Summary

DoD Site #

118(A)

Area I

Vessel Inventory

	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 3	AST	US Army	10000	Unknown	Diesel	Pre 1941	Pre 1961	No	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Records Research Report was not clear if this tank was a AST or UST. A 1999 investigation was unable to find any USTs in the area of Building 118(A). Therefore, it is assumed that this tank was an AST.

Furthest Stage of Environmental Investigation

RI

COMMENTS

The Records Research Report was clear on which tanks were ASTs or possibly USTs. In June 2000, the USACE conducted a geophysical survey and excavated five test pits to locate a suspected 20,000-gal fuel storage tank that was believed to be in the survey area. No evidence of a UST or metals was found, but a thin lens of soil with a slight-moderate hydrocarbon odor was encountered in a few pits. Groundwater was reached at some pits and samples of groundwater and soil were taken. Diesel fuel, motor oil, and solvents were detected in soil and groundwater samples. The highest diesel fuel and motor oil concentrations in soil were detected at 510 mg/kg and 370 mg/kg, respectively. In groundwater, several solvents were reported: trichloroethene (TCE) (max conc. = 13 µg/L), cis-1,2-dichloroethene (max. conc. = 24 µg/L), trans-1,2-dichloroethene (max. conc. = 1.2 µg/L), tetrachloroethene (PCE) (max. conc. = 2.7 µg/L) and 1,1-dichloroethane (max. conc. = 1.2 µg/L). Trace amounts of DIPE (an oxygenate) were detected in the groundwater samples at a maximum concentration of 1 µg/L. The occurrence of any oxygenate indicates a post-Army release since the Army left in 1964 and oxygenates were used as an additive in fuels in the early 1980s. Additional soil and groundwater samples were collected during the 2004 Expanded Site Inspection investigation. The fuel and solvent contaminates were delineated in soil and groundwater.

RECOMMENDATIONS

A risk assessment should be performed.

PA Summary

DoD Site #

120

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-280-040	HISTORIC ARSENAL PARK LTD	946 TYLER ROAD
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1943	Not applicable	9817
Current Land Use		
Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Quartermaster Storage/Shop/Electroplating

Secondary DoD Uses

Metals

Post-Army Uses

1967: leased to Flavor Fresh for warehousing and distribution (ref 587) (ref 418). 1977: Leased to Exxon for storage and handling sling pins of catalyst for 2 months (ref 701). Currently rented to artists, commercial space, and retail space, and owned by Gordon Potter.

Flooring

Concrete

Disposal Information

Drains and drain trenches lead thru neutralizer tanks then to storm drains. The control valve before the neutralizer tanks could bypass the neutralizer tanks and allow direct disposal into the storm drain.

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Fixtures and Supplies Storage 1962 vacate, Safety Equipment 1964 vacate (ref 713). 1943; constructed for storage. A document dated 22 December 1954 describes how parts were cleaned. First the parts were soaked and scrubbed in Oakite Aviation Cleaner (Lye). Following the Oakite bath, parts were put into a solution of laboratory "Calgonite" detergent and rinsed with germicidal antiseptic solution (sodium hypochlorite) (ref 37). Drawing 5450 dated 12 March 1953, identifies the locations of proposed demineralizer and future seal, dye, rinse, anodizing, and cyanide etching tanks. Other tanks and rinses identified as already present in the building include, electro cleaner, alkali cleaner, degreaser, hydrochloric acid, sulfuric acid, electro sulfuric bright dip, chrome plate, hot rinse, nickel plate, copper plate, cadmium "Cgl.", still cadmium and cyanide dips. A degreaser pit leads to drain trench with storm drain and a neutralizer tank bgs. Drawing 5458 shows multiple tanks leading to drains.

Records Research Report Comments

Electroplating shop, had demineralizer tank (installed in 1951) that was overhauled and used to provide demineralized water for processing tanks in Building 56.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army

PA Summary

DoD Site #

120

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	AST	US Army	0	Unknown	Water	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Demineralizer Comments: Drawing 5450 (ref 320) dated 12 March 1953, identifies the locations of proposed tanks.									
Vessel # 2	AST	US Army	0	Unknown	Seal	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Drawing 5450 (ref 320) dated 12 March 1953, identifies the locations of proposed tanks.									
Vessel # 3	AST	US Army	0	Unknown	Dye	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Drawing 5450 (ref 320) dated 12 March 1953, identifies the locations of proposed tanks.									
Vessel # 4	AST	US Army	0	Unknown	Water	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Rinse Tank Comments: Drawing 5450 (ref 320) dated 12 March 1953, identifies the locations of proposed tanks.									
Vessel # 5	AST	US Army	0	Unknown	Anodizing material	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Drawing 5450 (ref 320) dated 12 March 1953, identifies the locations of proposed tanks.									
Vessel # 6	AST	US Army	0	Unknown	Cyanide	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Drawing 5450 (ref 320) dated 12 March 1953, identifies the locations of proposed tanks.									
Vessel # 7	AST	US Army	0	Unknown	Electro Cleaner	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 8	AST	US Army	0	Unknown	Alkali Cleaner	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 9	Pit	US Army	0	Unknown	Solvents	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Degreaser Pit Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 10	AST	US Army	0	Unknown	Hydrochloric acid	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 11	AST	US Army	0	Unknown	Sulfuric Acid	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									

PA Summary

DoD Site #

120

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 12	AST	US Army	0	Unknown	Sulfuric Acid	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 13	AST	US Army	0	Unknown	Bright Dip	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Plating Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 14	AST	US Army	0	Unknown	Copper	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Plating Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 15	AST	US Army	0	Unknown	Chrome	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Plating Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 16	AST	US Army	0	Unknown	Nickel	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 17	AST	US Army	0	Unknown	Cadmium	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Plating Dip Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 19	UST	US Army	0	Concrete	Waste water	Pre 1953	Unknown	Unknown	<input type="checkbox"/>
Uses: Neutralizer Tank Comments: Other tanks and rinses identified as already present in the building. Drawing 5450 (ref 320) dated 12 March 1953, identifies these tanks and rinses.									
Vessel # 20	USTs	US Army	0	Unknown (likely steel)	#5 Fuel oil	Unknown	Pre 1943	No	<input type="checkbox"/>
Uses: Fuel Storage Comments: A former Arsenal employee indicated that railroad cars would deliver #5 fuel oil to workshop USTs, which were located beneath B120. Geophysical survey results were inconclusive. The USTs were likely removed before construction of B120.									

Furthest Stage of Environmental Investigation

RI

COMMENTS

Fuel oil USTs are suspected of being present beneath Building 120. In an interview with former Arsenal employee, he indicated that railroad cars would deliver #5 fuel oil to USTs for the workshops. Mr. Milburn was not sure of the exact UST locations. Railroad tracks and an unidentified rectangular object are shown on May 1932 and September 1940 drawings (ref 1000). The presence of USTs associated with Building 120 could not be confirmed by geophysical methods (ref 1207). Elevated concentrations of fuels in soil and groundwater. Additionally, solvents were reported in groundwater. The report recommended to conduct additional soil and groundwater sampling in the vicinity of reported detections of diesel fuel and motor oil in soil and solvents in groundwater near Building 120 (ref 1207). Drawing 5454 also shows a photographic laboratory in Building 120 (ref 1000). The electroplating tanks are no longer present in the building. The neutralizer tank was not located during the 2000 geophysical investigation. During the 2004 Expanded Site Inspection investigation, groundwater was investigated to determine

PA Summary

DoD Site #

120

Area I

extent of fuels and solvents related to DoD activities. No chemicals from electroplating activities were reported above BSLs. Diesel fuel was detected at 510,000 ug/L. A soil gas sample was collected at the location of the diesel fuel impact. The soil gas sample had a TCE concentration of 40ppbv.

RECOMMENDATIONS

A risk assessment should be performed.

PA Summary

DoD Site #

152

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-170	J R SCHNEIDER CO INC	849 JACKSON STREET
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
Pre-1953	1957-1961	405
Current Land Use		
Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type
Fuel Storage Facilities

DoD Uses
Building is a 21,000-gallon fuel tank

Secondary DoD Uses
Fuel Type

Post-Army Uses
None Identified

Flooring
Concrete

Disposal Information
None Listed

Activities (inside/outside)
Outside

Records Research Report Addenda Data
A 1953 map indicates that Building 152 is a 21,000 gallon fuel tank. A building inventory dated 1 January 1957 lists the building as a 21,000 gallon fuel oil tank (ref 167).

Records Research Report Comments
The tank was not included in the 1961 inventory.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST	US Army	21000	Unknown (likely steel)	Fuel Oil	Pre 1953	Unknown	No	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Records Research is not clear if this tank is a UST or an AST. Further investigation in 1999 indicates that it was an AST that has since been removed.

Furthest Stage of Environmental Investigation

SI

COMMENTS

In June-August 2000, the USACE conducted a geophysical survey, excavated one hand auger boring, and collected one soil sample to locate a suspected 20,000-gal UST that was believed to be in the survey area. No evidence of a UST was detected. The RRR was inconclusive whether the suspected tank at Building 152 was a AST or a UST. The reported 21,000 gallon fuel

PA Summary

DoD Site #

152

Area I

tank was likely a AST, which has been removed, and not a UST. A slight hydrocarbon odor was detected. One hand auger boring was advanced to refusal into competent sandstone bedrock at 4 feet bgs, where soil samples were collected. Concentrations of diesel fuel and motor oil were 320 mg/kg and 64 mg/kg, respectively at a depth of 4 feet bgs (ref 1063).

RECOMMENDATIONS

No further action under the FUDS program was recommended for Building 152 because TPH was below regulatory limits and the AST has been removed.

PA Summary

DoD Site #

154

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

Owner Name

Site Address

0080-280-020

UNICO INDUSTRIAL SERVICESCO

943 LINCOLN STREET

Year Bldg. Built

1944

Year Bldg. Removed

Not applicable

Site Area (SqFt)

2688

Current Land Use

Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Motor Test Shed/Paint Spray/ Fuel storage

Secondary DoD Uses

Fuel Storage Facilities

Post-Army Uses

1971: leased to Recreation Corporation of North America to fabricate hitch parts (ref 587). 1971-1975: Recreation Corp. of north America for fabrication, assembly and distribution of hitch parts. Currently vacant.

Flooring

Asphalt and Concrete

Disposal Information

None Listed

Activities (inside/outside)

Inside/Outside

Records Research Report Addenda Data

Drawing 2640 dated 14 November 1944 (ref 622) identifies Building 154 as the Engine Test Shed with and existing 10,000 gallon UST, existing gasoline pumps, and a new 7,000 gallon 80 octane gasoline UST. Both tanks served the test shed and the Dynamometer Building. Paint storage vacate 1962 (ref 713).

Records Research Report Comments

The white gasoline (unleaded gasoline) fuel storage facility held an old boiler house fuel tank. The boiler house fuel tank was to be steam cleaned to remove all oil residue and given a fresh coat of red lead and a top coat of hot tar. Both white gasoline and the red gasoline (leaded gasoline) systems included pipelines that ran east behind shop Buildings 55, 56, and 57 to Building 53. Pipelines connected to the existing red and white gasoline supplies and provided return lines, running south of the addition to Building 56. The 7,000 and 10,000 gallon fuel storage tanks were listed on the 1957 Building Inventory (ref 167). There was no reference of the white gasoline storage tank being inventoried.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	10000	Steel	Gasoline	1944	2002	No	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Located in the red gasoline system. Located during a geophysical survey (BC Ref 1077). Removed in 2002.

PA Summary

DoD Site #

154

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
2	UST	US Army	7000	Steel	80 Octane Gasoline	1944	2002	No	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Located in the red gasoline system. Located during a geophysical survey (BC Ref 1077). Removed in 2002.

Furthest Stage of Environmental Investigation

RI

COMMENTS

In March 1999, the USACE conducted a geophysical survey and excavated seven test pits to evaluate the presence or absence of a 10,000-gallon gasoline UST, a 7,000-gallon gasoline UST, and a suspected 1,400-gallon "white gasoline" UST and associated piping. Two of three anomalous locations corresponded to the locations of a 10,000-gallon and 7,000-gallon UST. Piping was uncovered leading from the 7,000-gal UST to the 10,000-gallon UST. This piping branches off the 10,000-gal UST to the north and east. The eastern branch was probably connected to the Building 53 tank system; because the trace of the lines was not found in the test pits. The trace of the northern branch is unknown. The 1,400-gallon UST identified in the RRR was not located and may not have been installed (ref 1077). Also, it is unknown if piping found at western wall of Building 53 connected to another set of USTs beneath Building 56A (see Building 56A for further details) or once directly connected to the Building 154 tank system (ref 1077). The presence of hydrocarbons in soil and chlorinated VOCs and hydrocarbons in groundwater was confirmed. Lead concentrations in soil and groundwater do not exceed applicable regulatory concentrations (ref 1077). Between March and April 2002, the USACE removed the USTs, associated product piping, and collected soil and groundwater samples beneath the former tank and product piping. No RBSLs in soil samples were exceeded. M,p-xylenes, toluene, TPH-g and lead were detected above their respective RSBLs in groundwater (ref 1079). RWQCB requested a soil sample north of trench 7 because of a soil boring sample by Brown and Caldwell containing 1150 mg/kg diesel fuel at 5 feet bgs. During the 2004 Expanded Site Inspection investigation, a soil sample was collected about 15 feet north of trench 7 and contained 26 mg/kg diesel fuel, less than the ESL. Diesel fuel and motor oil were detected in groundwater downgradient of the former USTs at concentrations of 66,000 ug/L and 7,200 ug/L, respectively. Fuels and solvents were laterally and vertically delineated.

RECOMMENDATIONS

Perform a risk assessment on the contaminants detected.

PA Summary

DoD Site #

161

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

Owner Name

Site Address

0080-280-010

HISTORIC ARSENAL PARK LTD

920 JACKSON STREET

Year Bldg. Built

Pre-1945

Year Bldg. Removed

1981-1998

Site Area (SqFt)

11200

Current Land Use

Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Motor Cleaning Building/Steam Cleaning/Paint Spray/Fuel Storage

Secondary DoD Uses

Fuel/Paint/Fuel Storage Facilities

Post-Army Uses

1967-1981: International Manufacturing Company for office space and a facility for the manufacture and storage of pumps, water systems, swimming pools, automobile wheels and accessories (ref 425, 587, 702).

Flooring

Concrete

Disposal Information

Drawing 4619, dated 6 October 1949 identifies service pit in the floor of paint booth and the sump connected to the storm drain along the eastern side of the building.

Activities (inside/outside)

Inside and Outside

Records Research Report Addenda Data

A drawing dated 31 May 1944 (ref 609) shows a kerosene storage tank (adjacent to the north side of the building), paint spray booth, degreaser, steam cleaner, storm drains, catch basins and underground gas lines (ref 609). Record Research identified a dip tank line, stripping tank, acid dip tank (2), water dip tank (2), neutralizer tank (ref 714). Drawing 4619, dated 6 October 1949 identifies service pit in the floor of paint booth. The pit measured 10x3.5 feet and had a 6-inch drain that ran directly to the storm drain. A 1952 survey by Brown and Caldwell indicated the building operations included steam cleaning of large components, dipping and painting (ref 405). Guide Sheet A dated 1957 stated the building had been constructed in a temporary-type manner on reclaimed tidelands without pilings. Drawing 6105, dated 28 August 1958 identifies 4 catch basins and 4 drain trenches proposed as part of the building rehabilitation. Drawing 6270, dated 22 Sept. 1959 identifies boiler house, spray paint booth, and proposed drying oven. 1962 vacate date (ref 713).

Records Research Report Comments

Demolished by Benicia Industries. Temporary construction of building resulted in uneven settling, creating excessive stresses in trussed members to the extent that numerous failures occurred. Floors sank so badly that the floor drains could not operate (ref 54). A 1952 report indicated that there were sewer system deficiencies in the area of Buildings 56, 57, 89, and 161 which frequently needed rodding to keep the sewage lines open. Drain trenches and foundation remain.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army

PA Summary

DoD Site #

161

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	UST	US Army	3000	Unknown (likely steel)	Kerosene	1945		Unknown	<input type="checkbox"/>
Uses: Fuel Storage Comments: Assumed size based on reports of a similar kerosene tank at adjacent Building 103 that was not found in 1999 but likely this tank at Building 161 (FA/BC Ref 1077). Pre-1944 based on Reference 609, 1944 Map									
Vessel # 2	Trench	US Army	0	Unknown	Wastes	1945 -1958	Unknown	Unknown	<input type="checkbox"/>
Uses: Drain Trench Comments: Constructed with a catch basin at each end. Still exists. Pre-1958 based on Reference 610, 1958 Drawing.									
Vessel # 3	Trench	US Army	0	Unknown	Wastes	1945 -1958	Unknown	Unknown	<input type="checkbox"/>
Uses: Drain Trench Comments: Constructed with a catch basin at each end. Still exists. Pre-1958 based on Reference 610, 1958 Drawing.									
Vessel # 4	Trench	US Army	0	Unknown	Wastes	1945 -1958	Unknown	Unknown	<input type="checkbox"/>
Uses: Drain Trench Comments: Constructed with a catch basin at each end. Still exists. Pre-1958 based on Reference 610, 1958 Drawing.									
Vessel # 5	Trench	US Army	0	Unknown	Wastes	1945 -1958	Unknown	Unknown	<input type="checkbox"/>
Uses: Drain Trench Comments: Constructed with a catch basin at each end. Still exists. Pre-1958 based on Reference 610, 1958 Drawing.									
Vessel # 6	Pit	US Army	0	Unknown	Wastes	Pre-1949	Present	Unknown	<input type="checkbox"/>
Uses: Service Pit Comments: Still exists. Pre-1949 based on Reference 612, 1949 Drawing.									
Vessel # 7	AST	US Army	0	Unknown	Solvents	Pre-1944	Unknown	Unknown	<input type="checkbox"/>
Uses: Degreasing Dip Tank Comments: Pre-1944 based on Reference 609, 1944 Drawing.									
Vessel # 8	Booth	US Army	0	Unknown	Paints	Pre-1944	Unknown	Unknown	<input type="checkbox"/>
Uses: Paint Booth Comments: Pre 1944 based on Reference 609, 1944 Drawing.									
Vessel # 9	AST	US Army	0	Unknown	Unknown	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Stripping Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility. Tank is listed as being 3' deep.									
Vessel # 10	AST	US Army	0	Unknown	Water	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility. Tank is listed as being 3' deep.									
Vessel # 11	AST	US Army	0	Unknown	Water	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility. Tank is listed as being 3' deep.									
Vessel # 12	AST	US Army	0	Unknown	Acid	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility. Tank is listed as being 3' deep.									
Vessel # 13	AST	US Army	0	Unknown	Acid	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on Reference 714, Equipment List for New Facility. Tank is listed as being 3' deep.									

PA Summary

DoD Site #

161

Area I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
14	AST	US Army	0	Unknown	Unknown	Pre-1957	Unknown	Unknown	<input type="checkbox"/>

Uses: Neutralizer Tank

Comments: Pre-1957 based on Reference 714, Equipment List for New Facility. Tank is listed as being 3' deep.

Furthest Stage of Environmental Investigation

SI

COMMENTS

Service pit below paint booth had a drain going directly to the storm drain. The site is being used beneficially. During a site visit by Brown and Caldwell in 2003, the area is being used for storage of heavy equipment. The concrete was heavily stained with oils, especially in the area of several catch basins. The service pit was partially filled with water. In June 2004, a tank fill pipe was located and waste oil found in the tank. The tank limits were not determined due to interference of a concrete surface during the geophysical survey. Downgradient groundwater samples reported fuels and lead below their respective BSLs and ESLs.

Right of Entry not granted by property owner for the removal of this UST during this RA. However, TCE and its degradation products were detected in groundwater.

RECOMMENDATIONS

USACE requested additional access from the property owner to remove the tank. The property owner rescinded all access to the property. Until the USACE is granted access to the property, no further USACE actions can be conducted at the site.

PA Summary

DoD Site #

175

Area M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-120-070	BENICIA INDUSTRIES INC	
0080-120-210	BENICIA INDUSTRIES INC	1997 ELM ROAD

Year Bldg. Built 1955 Year Bldg. Removed Post 1973 Site Area (SqFt) 160

Current Land Use Industrial-Limited

OPERATIONAL HISTORY

DoD Use Type Motor Pool Area

DoD Uses Gasoline Service Station

Secondary DoD Uses Unknown

Post-Army Uses 1971: Pasha Truckaways for a gasoline service station (ref 587); 1973: Humble Oil for a gasoline service station (ref 418).

Flooring Concrete

Disposal Information None Identified

Activities (inside/outside) None identified outside of building.

Records Research Report Addenda Data Service Station scheduled to be vacated 12/31/63 (ref 713). Three fuel USTs: two 7500-gal tanks and one 2000-gal tank (ref 308 and 481).

Records Research Report Comments Beneficial use. In 1986, Kaprealian Engineering, Inc., conducted a soil investigation during the removal of the three tanks associated with Building 175. After tank removal, two soil samples were collected at the base of each excavation pit. The analytical results from these samples indicate that the concentrations of total fuel hydrocarbons, benzene, toluene, and xylenes were below detection limits. No further investigation of this site was required (ref 481).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	7500	Unknown (likely steel)	Unknown Fuel	1955	1986	Unknown	<input type="checkbox"/>
Uses: Fuel Storage									
Comments:									
2	UST	US Army	7500	Unknown (likely steel)	Unknown Fuel	1955	1986	Unknown	<input type="checkbox"/>
Uses: Fuel Storage									
Comments:									

PA Summary

DoD Site #

175

Area M

Vessel Inventory

Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 3 UST	US Army	2000	Unknown (likely steel)	Unknown Fuel	1955	1986	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments:

Furthest Stage of Environmental Investigation

RIFS

COMMENTS

The USTs were removed and previous environmental investigation indicate no further action warranted.

RECOMMENDATIONS

No DoD action is indicated (NDAI) for this site.

PA Summary

DoD Site #

178

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-440	BENICIA INTERNTL ASSOC	711 JACKSON STREET

Year Bldg. Built	Pre-1954	Year Bldg. Removed	1958-1962	Site Area (SqFt)	299
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Current Land Use: Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Fuel Storage Facilities

DoD Uses

A series of ASTs on a bluff overlooking Buildings 90 and 156.

Secondary DoD Uses

Fuel Type

Post-Army Uses

None Identified

Flooring

Dirt

Disposal Information

None Listed

Activities (inside/outside)

Unknown

Records Research Report Addenda Data

A 1954 Arsenal map identified Building 178 as being diesel oil tanks. 1957 Inventory Report and 1961 Data Fact Sheet identifies Building 178 as a single 23,500 gallon diesel fuel tank.

Records Research Report Comments

No longer present. Building appears on a 1958 map (ref 643). Building does not appear on a 1962 Building Zone List (ref 713). Associated with the locomotive facilities (Building 90 and 156).

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST	US Army	1020	Steel	Fuel oil	1950s	Unknown	No	<input type="checkbox"/>
Uses: Fuel Storage Comments: Tank was removed, date unknown. Inventoried in January 1957 (FA/BC Ref 1000 - ref 167).									
2	AST	US Army	23500	Steel	Diesel	1950s	Unknown	No	<input type="checkbox"/>
Uses: Fuel Storage Comments: Tank was removed, date unknown. Inventoried in January 1957 (FA/BC Ref 1000 - ref 167).									
3	AST	US Army	4265	Steel	Lubricating Oil	1950s	Unknown	No	<input type="checkbox"/>
Uses: Oil Storage Comments: Tank was removed, date unknown. Inventoried in January 1957 (FA/BC Ref 1000 - ref 167).									

PA Summary

DoD Site #

178

Area I

Vessel Inventory

	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 4	AST	US Army	4265	Steel	Lubricating Oil	1950s	Unknown	No	<input type="checkbox"/>

Uses: Oil Storage

Comments: Tank was removed, date unknown. Inventoried in January 1957 (FA/BC Ref 1000 - ref 167).

Furthest Stage of Environmental Investigation

SI

COMMENTS

The tanks referenced in the RRR are ASTs. A 1950s photo of the area shows 3 ASTs (similar size). In a building inventory, dated January 1, 1957 (ref 1000, ref 167), four tanks are listed. In June 2000, the USACE collected soil samples from three borings in the area of a former ASTs in locations where fuel lines were likely. No petroleum odors, staining, PID readings, or other field indications of fuel leakage from ASTs were observed. TPH as diesel and motor oil were observed in each soil sample. The highest concentrations of diesel fuel and motor oil were 140 mg/kg and 600 mg/kg, respectively. (ref 1063).

RECOMMENDATIONS

A site investigation report recommended no further action under the FUDS program for Building 178 (ref 1063).

PA Summary

DoD Site #

CL2

Area W

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address	
0080-090-300	DRESSER-RAND COMPANY		
Year Bldg. Built	1942	Year Bldg. Removed	1962-1998
		Site Area (SqFt)	494
Current Land Use	Industrial-General		

OPERATIONAL HISTORY

DoD Use Type

NIKE Missile Repair and Support Facilities

DoD Uses

Boiler House

Secondary DoD Uses

None Listed

Post-Army Uses

None Identified

Flooring

Concrete Foundation

Disposal Information

None Identified

Activities (inside/outside)

Inside

Records Research Report Addenda Data

On 16 November 1955, a request for the demolition of the 3,180-gallon UST was approved by the installation Commander. The disposal was recommended due to the excessive maintenance cost of the UST (ref 74), which was later replaced with a 5,000-gallon capacity above-ground storage tank (AST) placed adjacent to Building CL2 (ref 605) and (ref 167). According to a 1962 Building Zone List, CL2 was scheduled with an approximate date to vacate of December 1962.

Records Research Report Comments

Constructed to provide heat to Building CL1. Located 100 feet west of the western corner of Building CL1, Building CL2 was constructed on a concrete foundation with 8-inch concrete walls and a concrete slab roof; the building covered an area of 494 ft2 and contained one oil boiler (ref 196). To supply fuel oil to the boiler, a 3,180-gallon underground storage tank (UST) was installed near Building CL2 at the time of the building's construction (ref 74) in 1942. The records search indicates that the building is no longer present. The records did not indicate when the building was demolished.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	UST	US Army	3180	Unknown	Fuel Oil	1940s	1955	None	<input type="checkbox"/>

Uses: Fuel Storage

Comments:

PA Summary

DoD Site #

CL2

Area W

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
2	AST	US Army	5000	Unknown	Fuel Oil	1955	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments:

Furthest Stage of Environmental Investigation

NONE

COMMENTS

Status of the UST is unknown. Right-of-Entry was not granted to USACE to determine the status of the UST.

RECOMMENDATIONS

A geophysical survey is recommended to determine the status of the UST. The property owner denied access. Until USACE is granted access to the property, no further USACE actions can be conducted at this site.

PA Summary

DoD Site #

Service Station west of Building 45

Area I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-150-090	WHITEHEAD ROBERT & E	941 GRANT STREET			
Year Bldg. Built	Unknown	Year Bldg. Removed	1940's	Site Area (SqFt)	1287
Current Land Use	Mixed Use-Lower Arsenal				

OPERATIONAL HISTORY

DoD Use Type

Fuel Storage Facilities

DoD Uses

Civilian Service Station

Secondary DoD Uses

Fuel type

Post-Army Uses

None Identified

Flooring

Unknown

Disposal Information

None Listed

Activities (inside/outside)

Unknown

Records Research Report Addenda Data

None Listed

Records Research Report Comments

According to Buster Byerrum, a former Arsenal employee, this service station existed. Mr. Byerrum stated that this facility was destroyed by fire mid-1940s. Mr. Byerrum first stated that the building was located on the west side of Building 45 and in a second interview stated that it was located on the east side of Building 45.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

This service station was identified by Buster Byerrum and reportedly used by civilian employees prior to 1946-47 when it was destroyed by fire. The current landowner suspected a UST was located on the northwest side of the building. A geophysical investigation was performed and no anomalies were found that would indicate a UST (August 2004).

RECOMMENDATIONS

Based on the limited information and geophysical results indicated no anomalies in the area suggested by the landowner, no DoD action is indicated (NDAI) for this site.

PA Summary

DoD Site #

W9

Area W

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-250-280	CALWEST INDUSTRIAL HOLDINGS	401 INDUSTRIAL
Year Bldg. Built	1952	Year Bldg. Removed
		Not applicable
Current Land Use	Industrial-General	
	Site Area (SqFt)	283013

OPERATIONAL HISTORY

DoD Use Type

Material Warehouses

DoD Uses

Warehouse/Storage

Secondary DoD Uses

None Identified

Post-Army Uses

1970 to 1976: Army and Air Force Exchange leased Bays 1, 2-A, and 2-B for wholesale and distribution (ref 587, 418, and 580) and the Chrysler Boat Corporation leased Bay 5 for warehousing of boats and office space (ref 587 and 582). 1970-1975: JC Penney leased Bays 3 and 4 for storage and marking (ref 587). 1973: Solano Contract Warehouse Corp. leased the 2nd floor for a warehousing operation (ref 418), Johns-Manville Sales Corp. leased Bay 1 for warehousing and distribution of building materials (ref 418) and Unique Food Operations leased the cafeteria (ref 418). 1974: Ace Hardware leased the cafeteria (ref 587). 1976: Hickmott Foods, Inc. leased Bay 5 for canned food storage (ref 586) and Automatic Plastic Molding Co. leased Bay 2 for manufacture of plastic products. 1977: Ace Hardware leased Bay 5 for storage of merchandise (ref 701), California and Hawaiian Sugar Co. leased Bay 1 for storage and warehousing of sugar products (ref 702) and the Department of Transportation leased the 2nd floor for office space (ref 702).

Flooring

Concrete Foundation

Disposal Information

None Identified

Activities (inside/outside)

Inside

Records Research Report Addenda Data

As a result of the deactivation in 1953 of Camp San Luis Obispo in Southern California, the Arsenal received 2,000 tons of materiel. Building W9 provided a storage area for this materiel, which included general automotive supplies and vehicles. Petroleum, oils, and lubricants (POL) and solvents were handled near Buildings W9 and W10. Based on a memorandum dated 4 February 1955, the Commanding Officer at the US Naval Radiological Defense Laboratory apparently requested the construction specifications of Building W9 (ref 69). However, no record of any radioactive material storage in this building has been located. In 1959, a data processing system for accounting and inventory control was installed in an air-conditioned room in Building W9 to track the large inventory of parts and supplies within Buildings W9, W10, W11, and W12.

Records Research Report Comments

Located 1,200 feet north of Building W4 in the middle of Area W. Largest warehouse built at the Arsenal, covering 283,000 ft² (including a 201 foot by 202 foot area for office space). It has a reinforced concrete foundation and concrete block walls (ref 196), and was built by Louis C. Dunn, Inc., and Carrico and Gautier, Inc. Prior to the construction of Building W9, the lack of available storage space created problems with the placement and tracking of materiel received at the Arsenal. At times this resulted in the temporary loss or misplacement of supplies (ref 536). Two 30,000-gallon bunker fuel tanks were identified as being associated with Building W9 in 1957 (ref 167).

PA Summary

DoD Site #

W9

Area W

ENVIRONMENTAL SUMMARY

Vessel Inventory

	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	UST	US Army	30000	Unknown	Bunker Fuel	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Status unknown

Vessel # 2	UST	US Army	30000	Unknown	Bunker Fuel	Unknown	Unknown	Unknown	<input type="checkbox"/>
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Uses: Fuel Storage

Comments: Status unknown

Furthest Stage of Environmental Investigation

NONE

COMMENTS

The two 15,000 gallon USTs removed in 1993 were at W9 and closed to no further investigation by Solano County.

RECOMMENDATIONS

No DoD action is indicated for this site.