

APPENDIX B

Background Details

PA Summary

DoD Site #

4

Area: I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-440	BENICIA INTERNTL ASSOC	711 JACKSON STREET
0080-140-450	BENICIA INDUSTRIES	981 BAYSHORE ROAD

Year Bldg. Built 1948 Year Bldg. Removed Early 1970s Site Area (SqFt) 7668

Current Land Use Industrial-Waterfront

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Sandblast Building/Paint Spray

Secondary DoD Uses
Paint Spray/Shed

Post-Army Uses
1973: dredging and general construction shop for Dillingham Construction Corporation (with TO73)

Flooring
Unknown

Disposal Information
None Listed

Activities (inside/outside)
Inside

Records Research Report Addenda Data
During the latter half of 1950 a vacuveyor sand pickup system and two sandblast rooms were installed for cleaning medium size parts. A letter to the division engineer, dated 13 July 1953, stated that the paint and sandblasting facilities were in need of renovation. The renovation letter had a footnote stating that the facilities did not include canopies or acid proof brick flooring. No acid baths had been identified. 1953 renovation plans for sandblast facilities were submitted, but records do not indicate if renovation was performed. According to Guide Sheet A, dated 1957, the building had been constructed without pilings on reclaimed tideland and had settled beyond economic repair. Building was demolished in early 1970s.

Records Research Report Comments
Building served as part of the reclamation project for World War II equipment returns. Records Research indicates that the floors had sunk and the floor drains could not operate resulting in unhealthy working conditions.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation
RI

COMMENTS

Army records do indicate that by 1957 the building settled beyond "economic repair" such that the floors had sunk and the floor drains were not operating. Therefore, it may be assumed no post-Army use was possible. Potential groundwater impacts from the possible disposal of solvent-based and lead-based paints downgradient of the building were investigated during the 2004 Expanded Site Inspection investigation. Groundwater was sampled downgradient of the former Building 4. TCE, cis-1,2 DCE, vinyl chloride and diesel fuel were all detected. However, these results appear to have originated upgradient from activities that

PA Summary

DoD Site #

4

Area: I

occurred at Building 165.

RECOMMENDATIONS

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

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
Current Land Use	Mixed Use-Lower Arsenal	
	Site Area (SqFt)	6420

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 #

28

Area: I

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
Current Land Use	Public	Site Area (SqFt)
		12963

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	Site Area (SqFt)	25677
Current Land Use	Mixed Use-Lower Arsenal				

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
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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)

Owner Name

Site Address

0080-150-090

WHITEHEAD ROBERT & E

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). Two borings were drilled at Building 42 during the Expanded SI. Chloromethane (also known as methyl

PA Summary

DoD Site #

42

Area: I

chloride) concentrations were reported at Building 42 at a maximum concentration of 160 ppbv. There are no sources of chloromethane with former DoD activities in the building.

RECOMMENDATIONS

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

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
Current Land Use	Industrial-General	
	Site Area (SqFt)	846

OPERATIONAL HISTORY

DoD Use Type

Heavy Equipment Yard

DoD Uses

Paint Shop/Equipment Shop

Secondary DoD Uses

Unknown

Post-Army Uses

Toyota Motor Sales, Inc

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
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PA Summary

DoD Site #

50

Area: M

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	500	Unknown (likely steel)	Stove Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Oil Storage Comments: Removed at an unknown date									
Vessel # 2	AST	US Army	5500	Unknown (likely steel)	Road Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Oil Storage Comments: Removed at an unknown date									
Vessel # 3	AST	US Army	5500	Unknown (likely steel)	Road Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Oil Storage Comments: Removed at an unknown date									
Vessel # 4	UST	Unknown	3000	Unknown (likely steel)	Kerosene	Post 1964	01/05/87	Yes	<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	Yes	<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. A geophysical survey was performed on behalf of USACE on 18 February 2005 to determine if the Army tanks were USTs. The area was surveyed with vertical magnetics, line-locators and ground penetrating radar. The current building overlies the former building footprint of Building 50. The area surveyed was around the footprint of the existing building. The geophysical survey found a reinforced concrete pad, some anomalies that were confirmed by GPR to likely be buried debris, and a buried petroleum pipeline. Otherwise, there were no other anomalies that would indicate the presence of any USTs in this area. The Expanded SI focused on possible releases from oils at the heavy equipment yard. Groundwater samples were collected for fuels, metals and solvents. There were detections of fuel-related compounds (xylenes and MtBE). Concentrations were low (maximum concentrations for xylenes = 0.95 ug/L and MtBE = 0.69 ug/L). Antimony was also found in one of the groundwater samples. Based on the results of the geophysics, the Army tanks were likely ASTs and were removed from the site. The results from the Expanded SI groundwater sampling indicated no DoD impact due to any release from these stove oil or road oil ASTs. Residual concentrations of gasoline were reported in the groundwater from the post Army release.

RECOMMENDATIONS

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

PA Summary

DoD Site #

51

Area: I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-150-100	WELSH RALPH T & ANN	932 GRANT STREET
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1909	Not applicable	7192
Current Land Use Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Stable/Maintenance

Secondary DoD Uses
Unknown

Post-Army Uses
1968-1977: Office and storage of electrical supplies for Contra Costa Electric, Inc.

Flooring
Unknown

Disposal Information
Unknown

Activities (inside/outside)
Inside. Some storage was outside.

Records Research Report Addenda Data
Underground services cleared for construction in 1909. The building was located just north of Building 98. Following removal of mules in the 1940's, several 55-gallon drums filled with fuel for maintenance operations in the area were stored directly south of Building 51. According to Drawing 5091, dated 1 October 1951 (ref 288), plans were made to enclose a steam cleaning shed just behind Building 51. In this drawing, Building 51 was identified as a shop that included a hydraulic lift, a catch basin, an existing sump, and a drain trap. According to a 1957 inventory of buildings, the structure was being used by the Signal Corps for fork truck repair.

Records Research Report Comments
Record research indicates building was demolished, date not listed.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	AST's	US Army	55	Steel	Unknown Fuel	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Fuel Storage

Comments: Following the removal of the mules from the stable in the 1940's, several 55-gallon drums filled with fuel for maintenance operations in the area directly south of Building 51.

Furthest Stage of Environmental Investigation

SI

PA Summary

DoD Site #

51

Area: I

COMMENTS

Unknown where fuel drums were stored and the type of maintenance activities occurred in the former building. Soil samples were collected during the 2004 Expanded Site Inspection investigation. PAHs were detected at 1.5 feet below ground surface at concentrations ranging from 0.0037 mg/kg (benzo(a)anthracene) to 0.34 mg/kg (pyrene). No petroleum hydrocarbons were detected above ESLs. Lead was reported at 798 mg/kg in the soil duplicate at 0.5 feet below ground surface. Groundwater was not encountered.

RECOMMENDATIONS

A subsurface investigation is recommended to determine the lateral extent of lead and SVOCs.

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	Site Area (SqFt)	2250
Current Land Use	Mixed Use-Lower Arsenal				

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 #

55

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	1876	Year Bldg. Removed
		Not applicable
Current Land Use	Mixed Use-Lower Arsenal	Site Area (SqFt)
		8925

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Blacksmith Shop/Machine/Welding Shops

Secondary DoD Uses
Machine Shop/Welding Shop

Post-Army Uses
Retail Formica counter top fabricators. 1971-75: Laminations Unlimited for Formica counter top lamination. Currently used as a machine and welding shop for Unico, Inc.

Flooring
Concrete

Disposal Information
None Listed

Activities (inside/outside)
Inside

Records Research Report Addenda Data
SERVICE SHOPS: Blacksmith: gas forge (2), 51 kW furnace (2), 200 ton hydraulic press, 285 ton hydraulic press, 3 quench tanks, metal shop and welding. Records indicate that Building 55 suffered a great deal of structural damage from a fire in 1883. In the late 1940's and early 1950's, a structural addition of Building 55A was identified which housed a Machine shop and a Welding Shop. Drawing 5354, dated 1952, identifies a sprinkler system and the Welding Shop. Drawing 5353 shows a tunnel below the Welding shop and adjacent to the storeroom.

Records Research Report Comments
The tunnel systems below Building 55 runs the length of the building and was slated for a sprinkler system. Records do not give a clear indication of the tunnels purpose.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	AST or UST? Uses: Quench Tank	US Army	0	Unknown	Water	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 2	AST or UST? Uses: Quench Tank	US Army	0	Unknown	Water	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									

PA Summary

DoD Site #

55

Area: I

Vessel Inventory

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

Uses: Quench Tank

Comments: Pre-1957 based on Reference 714, Equipment list for new facility.

Furthest Stage of Environmental Investigation

RI

COMMENTS

Since the Records Research Report, the use of the tunnel beneath Building 55 is access for utilities. Building suffered structural damage from fire. Building 55 is part of the 50 Series Complex. In 1999, USACE detected two magnetic anomalies (designated "D" & "E") during a geophysical survey in the breezeway between Bldg 55, Bldg 56C, and Bldg 56A. Anomaly "D" is suspected to be a concrete slab or possible cistern while "E" is suspected to be a large utility or a small UST. Two hand auger borings were added to the sampling program to investigate these anomalies (ref 1207). Sampling for metals and fuels suspected associated with 2 forges planned. Additional COPCs include Cr(VI), Hg, PCBs, & PAHs (ref 1099). Analytical results from soil samples collected beneath Building 55 indicated releases to the subsurface of lead, solvents, and fuels. The source of the solvents (in the form of TCE) and fuels (in the form of PAHs) in soil is not known. These detections were not expected based on usage. Groundwater south of Building 55 is impacted with fuels and solvents. The source of fuels in groundwater may be related to the fuels reported in groundwater north of the 50 Series Complex (ref 1207). During the 2004 Expanded Site Inspection investigation, fuels and solvent impacts were laterally and vertically delineated.

RECOMMENDATIONS

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

PA Summary

DoD Site #

56

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	1884	Year Bldg. Removed
		Not applicable
Current Land Use	Mixed Use-Lower Arsenal	
	Site Area (SqFt)	36140

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Leather & Canvas Shop/Welding Shop

Secondary DoD Uses

Unknown

Post-Army Uses

Warehousing, automotive parts and rebuilt transmissions for Standard Transmissions in 1973. Service and repair of industrial machinery for Unico Industrial Service and Engineering Co from 1971 to 1977 (ref 702). Exxon Co. in 1977 for storage. Currently a wallpaper manufacturer occupies the 2nd floor.

Flooring

Concrete and Wood

Disposal Information

Unknown

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Leather and Canvas 1962 vacate date (ref 613). Leased 41,280 sq ft to Unico Industrial Service. A gas boiler was installed in the facility in 1945. During the latter half of 1950, four new firing pits were put into operation. In June 1951, Building 56 housed the Welding Shop, the Canvas and Leather Goods Shop, and the small arms rebuild program. In 1951, the Machine Tool Rebuild division was established, along with the conversion of the small arms buffing room to a motor rebuild room. Brown and Caldwell identified in 1952, operations in Building 56 included painting only and 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. These deficiencies were likely due to the settling of the former marshland in which these lines were installed. Surface Preparation Room: Sandblast Barrel Tumblers (2) (ref 714).

Records Research Report Comments

Former welding and machine shop. Housed Rubber Mold Dept. on 2nd floor. In 1907, a total of 1,927 rounds of fixed ammunition was disassembled and reloaded in this building. Boilers 1 and 2 used heavy #5 oil that was delivered hot. Gas boilers installed. According to instructions issued by the Rock Island Arsenal in 1910, the proper solution for removing metallic residue from the bores of small arms consisted of one ounce of ammonium per sulfate, 200 grains of ammonium carbonate, 6 ounces of ammonia (28 percent), and 4 ounces of water. In 1951 a hoist and monorail in the Parkerizing room for dipping rifles into oil dip tanks, renovation of the Leather shop boiler and oil tank on the oil tank burner occurred. In December 1960, rusted pipes were replaced with heavy-gauge pipe, coated with Gila coat for protection against acid fumes from the exhaust system, which had caused the deterioration.

PA Summary

DoD Site #

56

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	UST	US Army	0	Concrete	Caustics	Unknown	Unknown	Unknown	<input type="checkbox"/>

Uses: Dip Tank

Comments: Tank used for parkerizing. Tank still exists. Emptied by current landowner (at the time contained caustics).

Vessel # 2	ASTs	US Army	0	Unknown	Oil	Pre-1951	Unknown	Unknown	<input type="checkbox"/>
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Uses: Dip Tanks

Comments: Unknown how many dip tanks were located in Building 56. Pre-1951 based on Reference 197 Memo on Expansion and Rehabilitation of Building 56.

Furthest Stage of Environmental Investigation

RI

COMMENTS

This building is part of the 50 Series Complex. Preservation of small arms was performed in this building for decades. In 1999, a preliminary site investigation was conducted by USACE. Soil and groundwater samples were collected within and around the building. In particular in areas at the suspected parkerizing/oakite dip tank (no solvents used in the parkerizing or preserving process). Lead was detected in the soil. TCE, acetone, chloroform, and cis-1,2-DCE were the predominant VOC compounds detected in soil. Motor oil was found above the MDL in soil. PAHs, phenanthrene and pyrene, were detected in soil. VOCs were also detected in groundwater. (ref 1074). The presence of VOCs in soil and groundwater may be associated with a post-Army release. During the 2004 Expanded Site Inspection investigation, fuels and solvent impacts were laterally and vertically delineated.

RECOMMENDATIONS

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

PA Summary

DoD Site #

56A

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)
1944	Not applicable	51770
Current Land Use		
Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Small Arms Shop/Leather Canvas Shop

Secondary DoD Uses

None Listed

Post-Army Uses

Unico Industrial Service and Engineering Co. 1972-1975 for the servicing and repair of industrial machinery (ref 587). Metropolitan Van and Storage in 1975 for the storage of household goods (ref 587). Exxon Co. in 1977 for storage (ref 702). Currently houses a beauty shop and several artists studios. Portions of the building are used for storage.

Flooring

Concrete

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Leather and Canvas shop vacated in 1962, Small Arms section vacated in 1964 (ref 713). Small Arms section included a parkerizing room (Building 57) and parkerizing tanks. Building 56A was added to the facility in 1944 as the Small Arms shop. Record research was not clear on how many parkerizing tanks were inside building. According to a progress of operations document for 1952 a continuous degreaser was installed for the small arms branch presumably in Building 56A (a continuous degreaser was also associated with Building 57). Drawing 5352 dated 5 August 1952 identifies two test fire rooms in the basement on the southern side. Also identified are a firing room, ammunition storage room, and the boiler room (ref 345). Drawing 1479 showed the plans for fuel storage installation - one 10,000-gallon high octane gasoline tank and one 1,000-gallon diesel oil tank located west of Building 53 (ref 390) (which is now beneath Building 56A). Surface Preparation Room: Degreaser 10'x39"x7', Degreaser Still. Parkerizing Room: Parker Tanks 4'x8'x4' (8), Parker Tank 4'x6'x4' (ref 714).

Records Research Report Comments

Basement and first floor were small arms repair, and the third floor was leather and canvas shop. According to a Brown and Caldwell 1952 Survey, operations included degreasing, dipping and preserving (ref 405).

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 #

56A

Area: I

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	ASTs	US Army	0	Unknown	Unknown	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tanks Comments: Unknown how many dip tanks were located in Building 56A.									
Vessel # 2	UST	US Army	1000	Unknown	Diesel	Unknown	Pre 1944	No	<input type="checkbox"/>
Uses: Fuel Storage Comments: Presumed location beneath the southeast corner of Building 56A. Could not confirm location in 1999 investigation (BC Ref BC 1207). If installed, likely removed prior to construction of Building 56A in 1944.									
Vessel # 3	UST	US Army	10000	Unknown	High Octane Gasoline Tank	Unknown	Pre 1944	No	<input type="checkbox"/>
Uses: Fuel Storage Comments: Presumed location beneath the southeast corner of Building 56A. Could not confirm location in 1999 investigation (BC Ref BC 1207). If installed, likely removed prior to construction of Building 56A in 1944.									
Vessel # 4	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker 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: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 6	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 7	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 8	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 9	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 10	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 11	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									
Vessel # 12	AST	US Army	0	Unknown	Caustics	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Parker Tank Comments: Pre-1957 based on Reference 714, Equipment list for new facility.									

PA Summary

DoD Site #

56A

Area: I

Furthest Stage of Environmental Investigation

RI

COMMENTS

In 1999, USACE conducted a geophysical survey 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 southwest corner of Building 56A. Geophysical survey was inconclusive; two borings were placed on east and west sides of Building 56A. There appears to be no release of PCBs, hydrocarbons, or metals from former equipment in the transformer room (Building 56A). No further action under FUDS is recommended to address the Building 56A transformer room (ref 1207). The equipment room of Building 56A requires further investigation. Solvents and fuel were identified in groundwater along the south side of the building (in the downgradient direction of the 50 Series Complex and the building). During the 2004 Expanded Site Inspection investigation, fuels and solvents were laterally and vertically delineated.

RECOMMENDATIONS

A risk assessment is recommended on the residual fuels and solvents.

PA Summary

DoD Site #

57

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	1877	Year Bldg. Removed
		Not applicable
Current Land Use	Mixed Use-Lower Arsenal	
	Site Area (SqFt)	11550

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Small Arms Shop, Firing Range

Secondary DoD Uses

Firing Range

Post-Army Uses

Currently houses artist studios

Flooring

Wood

Disposal Information

According to Mr. Byerrum, chemicals would go down a drain in to two large cisterns and when the cisterns became full, the contents was pumped directly into the Carquinez Strait. Mr. Byerrum also stated, Industrial Waste was pumped into a swamp west of the building.

Activities (inside/outside)

Inside

Records Research Report Addenda Data

SMALL ARMS: Teardown Room: degreaser (3'x5'), degreaser still, five gun capacity electric barrel cleaner (2), Dip Tank (2) (ref 714). No records prior to 1945. Drawing 2994A, dated 26 September 1945, identifies the cleaning room and also identifies the locations of the cleaning solution vats (ref 634). In 1952, Brown and Caldwell reports the only hazardous waste-producing operation in Building 57 at this time was degreasing (ref 405).

Records Research Report Comments

Former carpenter shop, three (3) test firing ranges in basement. 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. These deficiencies were likely due to the settling of the former marshland in which these lines were installed. According to Mr. Byerrum, a former Arsenal employee, the degreasing process included TCE heated by steam coils until the TCE would vaporize, the small arms were hung over the TCE tanks and the chemical vapors would degrease them. The cold water coils cooled the boiling chemical to prevent the bath from spilling over the sides. He said that it would often boil over the sides and spill down the drain (ref 566).
 In earlier years before the installation of the degreaser when acids and caustics were used for degreasing of small arms, the drains emptied into two large cisterns located outside the building (cistern locations unknown). When the cisterns became full, the contents were dumped directly into the Carquinez Strait or dumped daily into the swamp west of the building (Byerrum, 1997) prior to filling of the area with artificial fill around 1920. Based on the processes occurring in the industrial area prior to 1920, it appears that any used material dumped into the former marshland would have been acids and possibly oils. It is not clear where the contents of the solvent-based materials in the degreaser tanks or other used materials were disposed of; however, it is presumed to be storm drains and the sanitary sewer system.

PA Summary

DoD Site #

57

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	Cistern	US Army	0	Unknown	Water (primary)	Unknown	Unknown	No	<input type="checkbox"/>
Uses: Emergency storage for fire. Possible disposal area for spent solvents Comments: Degreasing solution was drained into large cisterns, located underground which were emptied into the Carquinez Strait when full. Could not find in 1999 geophysical survey (BC Ref 1207).									
Vessel # 2	Cistern	US Army	0	Unknown	Water (primary)	Unknown	Unknown	No	<input type="checkbox"/>
Uses: Emergency storage for fire. Possible disposal area for spent solvents Comments: Degreasing solution was drained into large cisterns, located underground which were emptied into the Carquinez Strait when full. Could not find in 1999 geophysical survey (BC Ref 1207).									
Vessel # 3	AST	US Army	0	Unknown	Solvents	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Degreaser Dip Tank Comments: Tank removed									
Vessel # 4	AST	US Army	0	Unknown	Unknown	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Reference 714 lists 2 dip tanks at Building 57.									
Vessel # 5	AST	US Army	0	Unknown	Unknown	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Reference 714 lists 2 dip tanks at Building 57.									

Furthest Stage of Environmental Investigation

RI

COMMENTS

This building is part of the 50 Series Complex. The main features of this building include a degreaser in Building 57, and three firing ranges in the basement of Building 57. Samples were collected from the target material in the firing ranges. The samples contained elevated concentrations of lead, copper, and antimony. Recommendations from the 1999 investigation included additional investigation in regards to the solvents found in the soil and water and removal and offsite disposal of firing range target material from the basement of Bldg 57 (ref 1207). The Records Research information also indicated there were sewer system deficiencies. During the 2004 Expanded Site Inspection investigation, fuels and solvents were laterally and vertically delineated.

RECOMMENDATIONS

A risk assessment is recommended on the residual fuels and solvents.

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	Pre 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 a 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 #

59

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	Year Bldg. Removed	Site Area (SqFt)
1910	Not applicable	1102
Current Land Use	Mixed Use-Lower Arsenal	

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Tool House/Degreaser Pit

Secondary DoD Uses
Tool house

Post-Army Uses
Occupied by Roberto Flores since 1969 for machine shop to 1976 (ref 582). Current status unknown.

Flooring
Concrete

Disposal Information
Unknown

Activities (inside/outside)
Inside

Records Research Report Addenda Data
Oxygen storage 1962 vacate date (ref 713). In 1910, built as a tool house. In 1951, degreaser pit built. In 1957 inventory identified as tool house.

Records Research Report Comments
Storehouse for oils and paints, early 1900s.

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	Unknown	1951	Unknown	Unknown	<input type="checkbox"/>

Uses: Degreaser Pit

Comments:

Furthest Stage of Environmental Investigation
RI

COMMENTS

Tool house used to store oils and paints and contains degreaser pits. During the 2004 Expanded Site Inspection investigation, groundwater was sampled downgradient of the Building 53 USTs. The highest concentration of motor oil at the former Arsenal was detected here, 26,000 ug/L. Diesel fuel and MTBE were also detected at 13,000 ug/L and 0.45 ug/L respectively. Solvents such as TCE, cis 1,2-DCE and vinyl chloride were also detected in the downgradient groundwater sample at concentrations of

PA Summary

DoD Site #

59

Area: I

0.78 ug/l, 45 ug/L, and 11 ug/L respectively.

RECOMMENDATIONS

A risk assessment for this site is recommended. The presence of MTBE indicates a post-Army release. The high motor oil concentration may also be a post-Army release.

PA Summary

DoD Site #

59(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
0080-280-050	HISTORIC ARSENAL PARK LTD	985 LINCOLN ROAD

Year Bldg. Built 1910 Year Bldg. Removed 1945 Site Area (SqFt) 1633

Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Tool House

Secondary DoD Uses

None Listed

Post-Army Uses

None

Flooring

Unknown

Disposal Information

None Listed

Activities (inside/outside)

Unknown

Records Research Report Addenda Data

None

Records Research Report Comments

Records Research does not specifically mention this building.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

RI

COMMENTS

Building removed prior to the construction of Building 56A in 1945. In March through May 1999, the USACE conducted a subsurface investigation to assess the potential impact of soil and groundwater from oils that were stored at this location. Elevated concentrations of diesel fuel and motor oil in soil and in groundwater were reported. Elevated concentrations of halogenated VOCs were also found in groundwater. Results may indicate a release from oil stored in the former tool house or from adjacent facilities (Building 53 and Building 56A) (ref 1207). During the 2004 Expanded Site Inspection investigation, solvents and petroleum hydrocarbons were delineated in groundwater. Cis 1,2-DCE, TCE and toluene were detected in downgradient groundwater at a concentrations of 0.79 ug/L, 1.3 ug/L, and 2.7 ug/L, respectively.

RECOMMENDATIONS

A risk assessment is recommended on the residual contaminants detected.

PA Summary

DoD Site #

65(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	Post 1964
1918		
Current Land Use	Site Area (SqFt)	
Mixed Use-Lower Arsenal	600	

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Boiler House

Secondary DoD Uses
unknown

Post-Army Uses
None Identified

Flooring
Concrete

Disposal Information
None Listed

Activities (inside/outside)
Inside

Records Research Report Addenda Data
Boiler House 1964 vacate date (ref 713). According to the Facility Data Sheet (Records Research does not indicate which Facility Data Sheet), there were two gas-fired boilers installed, the first boiler was installed in 1940 and the second boiler was installed in 1955. In 1928, an oil burner was installed in the boiler.

Records Research Report Comments
Boiler house (removed at an unknown date before Building 56A in 1944). Coal or wood was used to fire the boiler before an oil burner was installed in 1928 (ref 130).

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	Unknown	Pre 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 B58.

Furthest Stage of Environmental Investigation

RI

COMMENTS

USACE conducted a geophysical survey in March 1999 to evaluate the thickness of Building 56A concrete slab and to plan for

PA Summary

DoD Site #

65(A)

Area: I

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. Building 65A was located beneath the southwest portion of Building 56A. This survey did not identify any features that would indicate the presence of former Building 65(A) or any associated UST for the boiler house (ref 1267). During the 2004 Expanded-Site-Inspection investigation, a soil sample was collected from 2-2.5 feet below ground surface. Diesel and motor oil were detected at 380 and 1,900 mg/kg, respectively. These concentrations are above the BSLs for diesel and motor oil which are 100 mg/kg for diesel fuel and 1000 mg/kg for motor oil. Downgradient groundwater was sampled as well. Cis-1,2 DCE was the only analyte detected with a concentration of 3.1 ug/L.

RECOMMENDATIONS

A risk assessment is recommended on the residual contaminates.

PA Summary

DoD Site #

90

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	1941	Year Bldg. Removed	Not applicable	Site Area (SqFt)	2343
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Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Locomotive Building

Secondary DoD Uses
Fuel type

Post-Army Uses
1972-1975 Leased to Leon Bates to manufacture and distribute tile (ref 587). Operations at Building 165 and Building 90 included manufactured aluminum wheels for automobiles and installing fiberglass truck beds on pick-up trucks. The aluminum wheel process included pouring the aluminum into a form. This was done in Building 90. The aluminum wheel was then grinded and cleaned. The finished wheels were then sold and distributed.
The types of cleaning activities are unknown. Currently used as an industrial painting operation.

Flooring
Concrete

Disposal Information
If Building 90 was built as shown in the November 1940 drawing then the building had a had a drain and sump in the far corner of the pit. A locomotive pit in the east half of the building had drainage that included 55 feet of 6 inch vitrified clay pipe. The outlet of the drain line is unknown.

Activities (inside/outside)
Inside

Records Research Report Addenda Data
Constructed in 1941 to house the Arsenals two (2) diesel locomotives and associated maintenance facilities. A drawing for a Proposed Locomotive Building dated 8 November 1940 identified, in the center of the facility, a concrete locomotive pit that measured 4 feet deep and 4 feet wide.

Records Research Report Comments
One year after its completion, Building 90 proved inadequate for the storage and repair required by the Arsenals locomotives. A request was formally made for a suitable locomotive facility, plus additional storage track. Historical maps show that the first building was located south of Building 91, but was moved to its present location northwest of Building 156.

ENVIRONMENTAL SUMMARY

Vessel Inventory

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

DoD Site #

90

Area: I

Vessel Inventory

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

Uses: Maintenance

Comments: A proposed locomotive building shows a pit, located in the center of the facility. A sump and drain would have been associated with the pit (ref 625) (Appendix C1).

Furthest Stage of Environmental Investigation

SI

COMMENTS

The location of a proposed locomotive building was approximately 90 feet south-southeast of Building 55 along the railroad tracks that align with the southern edge of Building 56A. Building 90 was actually built northwest of Building 156. There are no detailed drawings of Building 90, only this proposed plan. The actual location of the sump or drain lines from a pit are unknown. During the 2004 Expanded Site Inspection investigation, a boring was advanced downgradient of the building. Diesel fuel was reported at 97 ug/L in groundwater, below the ESL of 640 ug/L. Napthalene and PCE were detected at concentrations of 0.63 and 0.52 ug/L. Cis-1,2 DCE and TCE were detected at 13 and 2.4 ug/L. This contamination could be associated with the wheel manufacturing.

RECOMMENDATIONS

A risk assessment should be performed on detected contaminants.

PA Summary

DoD Site #

91

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)
1942	Not applicable	68257
Current Land Use Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Machine Shop/Combat Vehicle and Artillery Repair

Secondary DoD Uses
Fuel Type

Post-Army Uses
1973: Kaiser Aluminum and Chemical for metal fabrication and casting. 1973-77: Fiberboard Corp. for manufacture of plastic pipes (ref 584). Currently used by J.R. Schneider Company to manufacture filtration systems.

Flooring
Concrete

Disposal Information
None Listed

Activities (inside/outside)
Inside/Outside

Records Research Report Addenda Data
Teardown and Main Assembly: five (5) hydraulic press 60 ton, solvent tank (6). Recoil: Degreaser and still (120" x 42"). Gun Tube: radial drill (13 column x 7' swing arm), gun tube degreaser (135 gal.), hot grease and solvent tanks (8'x3'x3'), gun tube cleaning machine (240 mm tube).(ref 714). Expansion and Rehabilitation of Facilities document dated 15 June 1951 included connecting utilities to a new degreaser and still (presumably for solvent purification), installation of a paint spray booth, blast machine, infrared dryer, and a carbon jet cleaning machine. Renovation also included a sump pump in the boiler room.

Records Research Report Comments
Potential beneficial use. Foundation built on solid rock. Construction of a ramp around the degreaser occurred in 1951. Steam heaters served as temporary paint dryers until the arrival of drying ovens. Six soil samples were (analyzed for fuels and related compounds and metals) taken in 1993 and all were found to have components less than regulatory action levels. In a letter to J.R. Schneider dated 2 April 1993, the SCDEM ordered the company to cease and desist discharging untreated wastewater to grade (ref 532).

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 #

91

Area: I

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	Hot Grease/Solvents	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Hot Grease and Solvent Tank Comments: Pre-1957 based on reference 714, equipment list for new facility. Tank was 8'x3'x3'.									
Vessel # 2	AST	US Army	0	Unknown	Solvents	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on reference 714, equipment list for new facility.									
Vessel # 3	AST	US Army	0	Unknown	Solvents	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on reference 714, equipment list for new facility.									
Vessel # 4	AST	US Army	0	Unknown	Solvents	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	Solvents	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	Solvents	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on reference 714, equipment list for new facility.									
Vessel # 7	AST	US Army	0	Unknown	Solvents	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments: Pre-1957 based on reference 714, equipment list for new facility.									
Vessel # 8	AST	US Army	0	Unknown	Unknown	Pre-1957	Unknown	Unknown	<input type="checkbox"/>
Uses: Degreaser Comments: Pre-1957 based on reference 714, equipment list for new facility. Degreaser and Still 12"x 42".									
Vessel # 9	Booth	US Army	0	Unknown	Paints	Pre-1951	Unknown	Unknown	<input type="checkbox"/>
Uses: Paint Booth Comments: Pre-1951 based on Records Research data from an Expansion and Rehabilitation of Facilities document dated 15 June 1951.									

Furthest Stage of Environmental Investigation

RI

COMMENTS

This building is associated with Building 91A. Building 91A is an addition built onto Building 91 in 1951. One gas-fueled boiler was installed in 1942 and was in existence with 11 yrs. of service left as of 1961 facility data report (ref 1093). Activities in this building involved vehicle repair. Locations of the processes are unknown. During the 2004 Expanded Site Inspection investigation, downgradient groundwater samples were collected. Benzene, toluene, diesel fuel and cis-1,2 DCE were detected at concentrations of 0.91 ug/L, 0.59 ug/L, 51 ug/L, and 2.7 ug/L, respectively.

RECOMMENDATIONS

A risk assessment is recommended on the detected contaminants.

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

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
Vessel # 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 #

93

Area: I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-150-290	ORMOND THOMAS R	938 ADAMS STREET
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1941	Not applicable	9806
Current Land Use Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Truck Storage Building/MMW Repair, Motor Vehicle Maintenance Building.

Secondary DoD Uses

Fuel type

Post-Army Uses

1968-1973: Kayot Sales, Inc. for the assembly and distribution of boats and marine accessories (ref 587). No current user.

Flooring

Unknown

Disposal Information

Unknown

Activities (inside/outside)

Unknown

Records Research Report Addenda Data

Identified as MHE Parts Room and MHE Repair Shop date to vacate 7/31/62 (ref 713). Included in the Schedule A-Supplement to Report of Excess Real Property was a cleaner, chemical and steam, gas fired. In 1942, constructed as vehicle repair shop. Drawing 4307, dated 7 February 1947; identifies building as Motor Vehicle Maintenance Building (ref 371).

Records Research Report Comments

Vehicle rebuild. Field maintenance of material handling equipment (ref 541). Details include a gasoline engine at the steam washer, oil pressure tanks, two grease tanks, two compressors and two Globe hoists, and a floor drain located in the center 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
1	AST or UST?	US Army	0	Unknown	Grease	Post 1942	Unknown	Unknown	<input type="checkbox"/>
Uses: Grease									
Comments: Unknown if AST or UST.									
2	AST or UST?	US Army	0	Unknown	Grease	Post 1942	Unknown	Unknown	<input type="checkbox"/>
Uses: Grease									
Comments: Unknown if AST or UST.									

Furthest Stage of Environmental Investigation

RI

PA Summary

DoD Site #

93

Area: I

COMMENTS

Building used by DoD for vehicle repair. During the 2004 Expanded Site Inspection investigation, a boring was advanced at the southeast corner of the building. No groundwater was encountered. A soil gas sample was collected and 30 ppbv TCE was detected.

RECOMMENDATIONS

A risk assessment is recommended for the detected contaminants.

PA Summary

DoD Site #

101

Area: I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-100	BENICIA INDUSTRIES INC	1200 ADAMS STREET
Year Bldg. Built	Year Bldg. Removed	Site Area (SqFt)
1942	1973-1998	7711
Current Land Use Industrial-Waterfront		

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Battery Charge Building

Secondary DoD Uses

Battery

Post-Army Uses

1973: Lutz Tire for a garage and repair facility (ref 418). 1973: De Van Robins for a metal shop (ref 418). Currently owned by Benicia Industries.

Flooring

Concrete

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Date to vacate 7/13/62 (ref 713). SERVICE SHOPS: Battery Shop: acid tank (2) (3.5'x3'x4'), steam cleaner (ref 714). 30 June 1942 drawing shows a septic tank constructed of wood with an outflow trench across the road and under the railroad tracks to a point above high water (ref 619). Also identified are floor drains along with a hydraulic lift casing and a raceway approximately 26 feet long and 2 feet deep (ref 619). 1952; Brown and Caldwell identifies building operations including steam cleaning of battery cases (ref 405). The 1952 report also states that Building 101 is served by a 6-inch line that discharges at Point C directly into the Carquinez Strait. According to a disposition, dated 1 December 1953, the batteries were not identified as ordnance items because of deterioration. 6 May 1954, referenced 90 batteries (S/N 3B65L)(not an automotive type) found to be salvage. Does not list disposal location. According to a 1945 and 1954 Arsenal maps, Building 101 was named a "Battery Charging" Building (ref 650 and 646, respectively).

Records Research Report Comments

Demolished by Benicia Industries. The sewage line in front of Building 101 repeatedly clogged according to the records research report. The building had a septic tank with an outflow to a point above high water. Floor drains existed along with a hydraulic lift casing and a raceway (approximately 26 feet long and 2 feet deep).

ENVIRONMENTAL SUMMARY

Vessel Inventory

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

DoD Site #

101

Area: I

Vessel Inventory

	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
Vessel # 1	Septic Tank	US Army	0	Wooden	Sewage	1942	Unknown	Unknown	<input type="checkbox"/>
	Uses:Septic Tank								
	Comments: a drawing dated 30 July 1942 (ref 619)(Appendix C1) identifies the location of a septic tank east of the building. The tank was to be constructed of wood with an outflow trench running across road and under railroad tracks, to a point above hi water.								
Vessel # 2	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.								
Vessel # 3	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.								

Furthest Stage of Environmental Investigation

RI

COMMENTS

Building operations include steam cleaning of battery cases. Wastes flowed into floor drains. During the 2004 Expanded Site Inspection investigation, two borings were advanced downgradient of the building's foundation. Low to trace concentrations of metals and fuels were reported in groundwater. These concentrations do not exceed their respective RWQCB ESLs and indicate no significant DoD impact.

RECOMMENDATIONS

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

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	Year Bldg. Removed	Site Area (SqFt)
1943	Not applicable	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"/>
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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 #

111

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	1957-1961	Site Area (SqFt)	1728
Current Land Use	Industrial-General				

OPERATIONAL HISTORY

DoD Use Type
Heavy Equipment Yard

DoD Uses
Heavy Equipment Shop

Secondary DoD Uses
Unknown

Post-Army Uses
None Identified

Flooring
Unknown

Disposal Information
None Identified

Activities (inside/outside)
Outside/Inside

Records Research Report Addenda Data
(According to ref 167, the building was present in 1957). Presumably, building was demolished by DoD prior to 1961, because the buildings is not listed in the 1961 Facility Data Sheet (ref 196), and no building remains today.

Records Research Report Comments
The third sanitary line handled waste from Buildings 50, 111, and 136 and discharged at Point D (ref 405). Building 136 is shown attached to the east side of Building 111. Records research offered little detail regarding operations in the heavy equipment yard.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation
SI

COMMENTS
Records Research is unclear on site activities. Unknown what happened to the shop. During the 2004 Expanded Site Inspection investigation, downgradient groundwater and soil gas samples were collected. The only analyte detected was MTBE at a concentration of 0.32 ug/L in groundwater. The army never used fuel with MTBE, therefore, this is a post-Army release.

RECOMMENDATIONS
No additional DoD action is indicated.

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

	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	Pre 1941	Pre 1961	No	<input type="checkbox"/>
	Uses: Fuel Storage								
	Comments: Size Unknown								
Vessel # 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

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
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 unclear 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	1943	Year Bldg. Removed	Not applicable	Site Area (SqFt)	9817
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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 (Lyc). Following the Oakite bath, parts were put into a solution of laboratory "Calgonite" detergent and rinsed with germicidal antiseptic solution (sodium hypochlorite) (ref37). 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
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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

	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.									

Further 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 #

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	Year Bldg. Removed	Site Area (SqFt)
1944	Not applicable	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 RBSLs 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 #

156

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	1945	Year Bldg. Removed	Not applicable	Site Area (SqFt)	5913
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Current Land Use Mixed Use-Lower Arsenal

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Locomotive House

Secondary DoD Uses

Fuel type

Post-Army Uses

1970: leased to Leon Bates to manufacture and distribute tile (ref 587). 1973: Solano steel for the miscellaneous fabrication of metal (ref 418). 1999: occupied by Pure Water Products at 750A Jackson Street. Currently an auto paint shop.

Flooring

Concrete

Disposal Information

Unknown

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Railroad Roundhouse 1964 vacate (ref 713).

Records Research Report Comments

Locomotive pits installed for servicing of locomotive. Constructed to house three diesel locomotives at the Arsenal. Records research was unable to identify drawings or any other specific DoD usage at Building 156.

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	Pit	US Army	0	Concrete	None	1945	Unknown	Unknown	<input type="checkbox"/>
Uses: Servicing Locomotives Comments: Currently filled to grade.									
2	Pit	US Army	0	Concrete	None	1945	Unknown	Unknown	<input type="checkbox"/>
Uses: Servicing Locomotives Comments: Currently filled to grade.									
3	Pit	US Army	0	Concrete	None	1945	Unknown	Unknown	<input type="checkbox"/>
Uses: Servicing Locomotives Comments: Currently filled to grade.									

PA Summary

DoD Site #

156

Area: I

Furthest Stage of Environmental Investigation

SI

COMMENTS

The locomotive pits are filled in and concrete is exposed at grade. There are no drawings that indicate the construction of these pits. Building 90 references a drawing for a Proposed Locomotive Building dated 8 November 1940. The drawing shows the construction details of a concrete locomotive pit. This maybe indicative of the locomotive pits in Building 156. During the 2004 Expanded Site Inspection investigation, two borings were advanced downgradient of the building. No groundwater was encountered, therefore soil gas samples were collected. No analytes were detected above laboratory method detection limits.

RECOMMENDATIONS

No further DoD action is indicated for this site.

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	Year Bldg. Removed	Site Area (SqFt)
Pre-1945	1981-1998	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
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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
Vessel # 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 #

165

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	Year Bldg. Removed	Site Area (SqFt)
1945	Not applicable	38400
Current Land Use Mixed Use-Lower Arsenal		

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Reclamation Building/Transport Vehicle Shop

Secondary DoD Uses

Fuel type

Post-Army Uses

1966-1981: International Manufacturing company for office space and as a facility for the manufacture and storage of equipment for pumps, water systems, swimming pools, automobile wheels and accessories. Operations at Building 165 and Building 90 included manufacturing aluminum wheels for automobiles and installing fiberglass truck beds on pick-up trucks. The aluminum wheel process included pouring the aluminum into a form, grinding the wheel and then cleaning the wheel. The finished wheels were then sold and distributed.

The types of cleaning activities are unknown. Also performed in these buildings was the installation of fiberglass truck beds on pick-up trucks. The trucks were shipped without the bed and the business just installed the beds on the truck. Currently Building 165 houses Benicia Mini Storage at 711 Jackson.

Flooring

Concrete

Disposal Information

Unknown

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Chassis Section: 60 ton Hydraulic Press (ref 714). According to a 1961 Facility Data Sheet, two gas fired boilers were installed in Building 165 (ref 196). Drawing dated 14 March 1945 and 4 July 1945, identify mechanical works and utility plans: including caustic, rinse, pickle, oil bath, and degreaser processing tanks.

Records Research Report Comments

Previous activities included vehicle repair. There was a 1951 renovation to the boiler room. Housed a complete teardown and production line rebuild. Renovation of floor slabs because of heavy traffic damage and settling. Record located in Solano County Department of Environmental Management (SCDEM) (file no. 20003) identified the apparent removal of a UST in 1987 (ref 479). Although no backup data could confirm this removal, SCDEM conducted a site visit in 1996 and found patched asphalt. A soil/groundwater investigation ordered by SCDEM determined that the tank removed had contained gasoline.

ENVIRONMENTAL SUMMARY

Vessel Inventory

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

DoD Site #

165

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	Caustic material	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments:									
Vessel # 2	AST	US Army	0	Unknown	Water	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments:									
Vessel # 3	AST	US Army	0	Unknown	Acid	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Pickle Dip Tank Comments:									
Vessel # 4	AST	US Army	0	Unknown	Oil	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Dip Tank Comments:									
Vessel # 5	AST	US Army	0	Unknown	Solvent	Unknown	Unknown	Unknown	<input type="checkbox"/>
Uses: Degreaser Tank Comments:									
Vessel # 6	UST	US Army	0	Unknown	Gasoline	Unknown	1987	Yes	<input checked="" type="checkbox"/>
Uses: Fuel Storage Comments: Tank removed in 1987									

Furthest Stage of Environmental Investigation

RI

COMMENTS

It is unknown if the UST case is closed. Drawing dated 14 March 1945 and 4 July 1945 also shows the location of paint booth and sand blast area in the northeast corner of the building. The dip tanks, paint booth and sand blast have been removed. The current business has divided the building into hundreds of storage areas. Locating any former features associated with former DoD dip tanks is very difficult. During the Expanded Site Inspection investigation in 2004, several borings were advanced downgradient of the building. Solvents were detected at high levels: Cis 1,2-DCE, TCE, and vinyl chloride had concentrations of 46,000, 32,000, and 4,600 ug/L, respectively. Solvents were laterally and vertically delineated. No PAHs or fuels were reported. This contamination could be associated with the wheel manufacturing.

RECOMMENDATIONS

A risk assessment is recommended on detected contamination.

PA Summary

DoD Site #

165A

Area: I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

Owner Name

Site Address

0080-140-460

BENICIA INTERNATL ASSOC

Year Bldg. Built

1940's or 1950's

Year Bldg. Removed

1945-1953

Site Area (SqFt)

6190

Current Land Use

Industrial-Waterfront

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Steam Cleaning Building

Secondary DoD Uses

Fuel type

Post-Army Uses

Currently owned by Benicia Industries, Inc.

Flooring

Unknown

Disposal Information

Unknown

Activities (inside/outside)

Unknown

Records Research Report Addenda Data

Building T199 (Maintenance Building/Body and Radiator Shop) was constructed as a temporary facility in 1953 to replace Building 165A. Building 165A does not show up on a 1945 map (ref 650).

Records Research Report Comments

Removed by DoD. Most of the steam cleaning at the Arsenal took place at Building 165A and 161. The maximum capacity for this facility was 20 general purpose trucks per shift-60 in a full 3 three-shift day. As with Building 161, a weak alkali soap was injected into the steam during operations (ref 405).

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

RI

COMMENTS

This building appeared to be used as a steam cleaning facility for vehicles. It is unknown the type of waste disposal that was used or waste management practices for the steam cleaning materials. During the 2004 Expanded Site Inspection investigation, groundwater samples were collected downgradient of the former building. Cis-1,2 DCE and chloroform were detected at 4.9 ug/L and 0.38 ug/L, respectively. No other fuels or solvents were detected. These results appear to have originated upgradient from activities that occurred in Building 165.

RECOMMENDATIONS

A risk assessment is recommended on the detected contaminants.

PA Summary

DoD Site #

166

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	1945	Year Bldg. Removed
		1970's
Current Land Use	Industrial-Waterfront	
	Site Area (SqFt)	11946

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Paint Shop

Secondary DoD Uses

Paint Spray/Shed

Post-Army Uses

1973: E.L. Morgan Company for the manufacture and distribution of building panels (ref 418). 1972-1977: C. Itoh & Company, Ltd. for import auto services and storage (ref 425, 587 and 702). Currently owned by Benicia Industries, Inc.

Flooring

Unknown

Disposal Information

Unknown

Activities (inside/outside)

References from 1950 state that the facility was used for painting indoors when foul weather prevented painting outdoors in the area M motor pool (Building 172) (ref 151).

Records Research Report Addenda Data

Drawing 4497, dated 10 November 1948, identifies locations for paint section, drying oven, boiler house (Building 160), grease rack, catch basins, sanitary sewer lines, and a "fuel gas" line to both the building and the boiler house south of the facility. Building had been constructed on reclaimed tidelands without pilings, and had settled 12 inches on one side (ref 54). Paint Shop listed with 1962 and 1964 vacate dates (ref 713).

Records Research Report Comments

Cleaning and processing facility. Demolished by Benicia Industries in the 1970s.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

RI

COMMENTS

The building was used a paint shop but also contained a grease rack. Therefore, in addition to the painting activities there appears to be maintenance activities performed at this building due to the presence of the grease rack. During the 2004 Expanded Site Inspection investigation, groundwater was sampled downgradient of the former building. MTBE was detected at a concentration of 2.4 ug/L. The MTBE indicates a post-Army release. No other fuels or solvents were detected.

RECOMMENDATIONS

No additional DoD action is indicated for this site.

PA Summary

DoD Site #

167

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	1945	Year Bldg. Removed
		Not applicable
Current Land Use	Industrial-Waterfront	Site Area (SqFt)
		8500

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Bar Stock Building/Storage/Vehicle Shop for original Motor Pool

Secondary DoD Uses
Fuel type

Post-Army Uses
Date unknown: Instrument repair of gauges for Instrument Service Company 1973: Benicia Lumber Mill for the storage and distribution of building materials (ref 418). 1973: HBS Shipping Group for the storage of motor vehicles (ref 418, 425). 1974: leased to Chrysler Motor Company for storage of vehicles (ref 587). 1977: leased to Chrysler Corporation for distribution of Dodge Colt automobiles (ref 702). Mazda rented 8500 square feet for auto processing stated in a 1980 appraisal document (ref 576). Unidentified current user. Current use is storage.

Flooring
Concrete

Disposal Information
Unknown

Activities (inside/outside)
Unknown

Records Research Report Addenda Data
None Listed

Records Research Report Comments
Adjacent to original motor pool along waterfront. Historical records identify this building as vehicle shops however did not indicate whether maintenance work was performed here.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation
RI

COMMENTS
Unknown if maintenance work occurred in this building. During the 2004 Expanded Site Inspection investigation, groundwater samples were collected downgradient of the building. Napthalene was detected at 0.61ug/L. No other solvents or fuels were detected.

RECOMMENDATIONS
A risk assessment is recommended on the detected contaminates.

PA Summary

DoD Site #

168

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

1945

Year Bldg. Removed

Not applicable

Site Area (SqFt)

8500

Current Land Use

Industrial-Waterfront

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Bar Stock Building/Storage/Vehicle Shop for original Motor Pool

Secondary DoD Uses

Fuel type

Post-Army Uses

1973: Benicia Lumber Mill for storage and distribution of building materials (ref 418). 1974: Chrysler Motor Company for automobile storage. Current use unidentifiable. 1977: leased to Chrysler Corporation for distribution of Dodge Colt automobiles (ref 702). Mazda rented 8500 square feet for auto processing stated in a 1980 appraisal document (ref 576). Current use is storage and a sign maker.

Flooring

Concrete

Disposal Information

Unknown

Activities (inside/outside)

Unknown

Records Research Report Addenda Data

None Listed

Records Research Report Comments

Historical records identify this building and Building 167 as vehicle shops. Storage and packaging facility adjacent to the original motor pool. Records did not indicate whether maintenance work was performed.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

Unknown if maintenance work occurred in this building. During the 2004 Expanded Site Inspection investigation, two borings were advanced. Diesel fuel was detected in groundwater downgradient of the building at a concentration of 100 ug/L, below the ESL of 640 ug/L. Diesel fuel was also reported at another location near Building 168 (SWAMPBHP002) at a concentration of 270 ug/L. No other solvents or fuels were detected.

RECOMMENDATIONS

Additional investigaiton is recommended to determine the source of the diesel fuel in this area.

PA Summary

DoD Site #

171

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 1945 Year Bldg. Removed 1964-1998 Site Area (SqFt) 1960

Current Land Use Industrial-Limited

OPERATIONAL HISTORY

DoD Use Type
Motor Pool Area

DoD Uses
Vehicle Shop

Secondary DoD Uses
Unknown

Post-Army Uses
None Identified

Flooring
Unknown

Disposal Information
None Identified

Activities (inside/outside)
Inside

Records Research Report Addenda Data
Maps from 1945 and 1954 identified this building as an automotive repair shop (ref 650 and 646).

Records Research Report Comments
Building was removed by current owner (date unknown).

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation
SI

COMMENTS

Automotive maintenance and repair was performed in this building. Disposal practices unknown. During the 2004 Expanded Site Inspection investigation, a boring downgradient of the building was advanced. No groundwater was encountered. A soil gas sample was collected. Chloroform was the only analyte detected at a concentration of 0.00011 ppbv. Chloroform could not be linked with vehicle maintenance activities. Therefore, there is no evidence of a DoD release at this site.

RECOMMENDATIONS

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

PA Summary

DoD Site #

172

Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

Owner Name

Site Address

0080-120-210

BENICIA INDUSTRIES INC

1997 ELM ROAD

Year Bldg. Built 1945

Year Bldg. Removed 1975-1998

Site Area (SqFt) 9720

Current Land Use Industrial-Limited

OPERATIONAL HISTORY

DoD Use Type

Motor Pool Area

DoD Uses

Vehicle Repair and Maintenance Shop

Secondary DoD Uses

Unknown

Post-Army Uses

Date unknown: office; 1973: electrical sign fabrication and repair by Nelson Neon; 1975: electrical contracting by Dolphin Engineering.

Flooring

Unknown

Disposal Information

None Identified

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Identified as Administrative Vehicle Shop with a vacate date of March 1964 (ref 713).

Records Research Report Comments

Building was removed by landowner.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

Automotive maintenance and repair was performed in this building. Disposal practices unknown. During the 2004 Expanded Site Inspection investigation, a boring downgradient of the building was advanced. No groundwater was encountered. A soil gas sample was collected and no analytes were detected above method detection limits. A soil gas sample collected nearby at Building 171 reported chloroform. Chloroform could not be linked with vehicle maintenance activities. Therefore, there is no evidence of a DoD release at this site.

RECOMMENDATIONS

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

PA Summary

DoD Site #

194

Area: W

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN) 0080-110-260	Owner Name BENICIA INDUSTRIES INC	Site Address
Year Bldg. Built Circa 1950s	Year Bldg. Removed By Oct 1954	Site Area (SqFt) 1897
Current Land Use Industrial-General		

OPERATIONAL HISTORY

DoD Use Type
Sewer and Drainage Systems

DoD Uses
Septic Tank

Secondary DoD Uses
Unknown

Post-Army Uses
None Identified

Flooring
Unknown

Disposal Information
None Identified

Activities (inside/outside)
Inside

Records Research Report Addenda Data
Per Drawing 5765, dated 28 Oct 1954, septic tank Building 194 had been abandoned (ref 606). Building appears on a 1954 map (ref 646).

Records Research Report Comments
4,000-gallon capacity

ENVIRONMENTAL SUMMARY

Vessel Inventory

Vessel #	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post-Army	Installed Post-Army
1	Septic Tank	US Army	4000	Unknown	Sewage	1950s	Pre 1954	No	<input type="checkbox"/>

Uses: Septic Tank

Comments:

Furthest Stage of Environmental Investigation

NONE

COMMENTS

Located near the NIKE Missile Repair and Support Facilities. The tank was abandoned. Research of this septic tank indicates that it was abandoned by October 1954 (prior to the decommissioning and closure of the former Arsenal in 1964). Therefore the septic tank was not beneficially used and is considered an eligible property for investigation under the FUDS Program pursuant to Chapter 3, Section 7.2.3.5 of USACE Engineering Circular EC-200-3-7, DERP-FUDS Program Manual, dated 30

PA Summary

DoD Site #

194

Area: W

September 1999. The current landowner was in the process of selling the property at the time of the Expanded Site Inspection (2004) and were reluctant to agree to a Right-of-Entry at the time.

RECOMMENDATIONS

Additional investigation is recommended at this site to determine potential groundwater impacts from the possible discharge into the septic tank from the former NIKE missile repair and support facilities (CL1).

PA Summary

DoD Site #

CL1

Area: W

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-090-610	PARACHINI BENICIA PROP LP	3701 INDUSTRIAL
Year Bldg. Built	1942	Year Bldg. Removed
		Not applicable
Current Land Use	Industrial-General	Site Area (SqFt)
		30690

OPERATIONAL HISTORY

DoD Use Type

NIKE Missile Repair and Support Facilities

DoD Uses

Clip-link and belt plant (1942-1944); guided missile shop/NIKE missile repair & rebuilding

Secondary DoD Uses

None Listed

Post-Army Uses

1968-1977: Benicia Manufacturing for the manufacture and assembly of auto parts including jacks and safety belts (ref 587 and 702). 1969-1977: Kearney-National, Inc., for the manufacture of electrical equipment including outdoor lighting poles (ref 587 and 702). 1973: Solano Specialties for the manufacture and assembly of auto parts (ref 418). Benicia Industries, Inc., granted dumping rights under the lease to Weldon Leather to dispose of their waste leather in the area. It was estimated that 10,000 to 12,000 cubic yards of scrap leather were dumped between 1965 and early 1969 when Benicia Industries, Inc., stopped the practice. The leather waste was to be disposed of in the future at an approved dump in Contra Costa County between Martinez and Concord (ref 594). According to the minutes of a meeting of the Benicia Industries, Inc., Executive Committee, dated 30 April 1974, a Cleanup and Abatement Order was issued by the Regional Water Quality Control Board (RWQCB) that required Benicia Industries, Inc., to remove all scrap leather dumped in the vicinity of CL1 by Weldon Leather. Recorded in the minutes of Executive Committee meetings, dated 25 and 26 June 1974, the costs for removing the scrap leather were higher than previously estimated because the volume of scrap material uncovered was much greater than anticipated. The bulk of the material had been removed and the RWQCB had granted additional time to complete the final cleanup after the area dried out (ref 593). Records research did not identify the current use of CL1. According to Vista Information Services, thirteen businesses located in the vicinity of Building CL1 have leaking USTs or generate hazardous wastes.

Flooring

Concrete foundation

Disposal Information

Effluent from the paint spray booth in CL1 was discharged into the flushing room, component room, and sanitary sewer. The flushing room and component room had drain lines installed that discharged to open bottom field drains.

Activities (inside/outside)

Inside/Outside

Records Research Report Addenda Data

From May 1942 through 1 December 1943 the plant had a daily output target of 500,000 loaded .30 and .50 caliber rounds (ref 536, Bailey, 1997). By December 1943, activities related to the Arsenal's new mission as the transshipment depot replaced this small arms ammunition activity. During 1944 and 1955, Building CL1 was used for renovation and reclamation of returned materiel from World War II and the Korean conflict. This exercise included re-packing many hundreds of thousands of pounds of propellant powder (ref 536). In 1954, the Arsenal was assigned the mission of rebuilding NIKE guided missile propellant systems and internal guidance systems (ref 536). On 25 January 1955, a request for funds to rehabilitate Building CL1 during fiscal year 1956 was filed. The rehabilitation was justified as necessary to meet the requirements of servicing from four to eight NIKE missiles during an eight-hour work shift (ref 48). According to Drawing 5789, dated 18 February 1955, Building CL1 contained a spray paint booth attached to the building's southern area. Upon completion of the rehabilitation in 1956, Building

PA Summary

DoD Site #

CL1

Area: W

CL1 became the official NIKE missile propellant system and internal guidance system repair plant. The newly rehabilitated facility provided an additional 16,000 ft² of floor space, of which 2,400 ft² was dust-proof and air-conditioned for work on delicate components (ref 536). In 1957 the Arsenal rebuilt 619 missiles; during the first half of 1958, it rebuilt 584. In May 1959, Building CL1 was upgraded to accommodate the NIKE Hercules missile (ref 536), an all-solid propellant model (ref 560). According to the 1961 Facility Data Report, CL1 was heated by a combination of steam, convectors, and oil (ref 196). Building CL1 continued to re-build guided missiles until the closure of the Arsenal in 1964. Portions of the area (exact locations have not been determined) to the south and east of Building CL1 have been identified by former Benicia Industries, Inc., employees as a landfill used by Benicia Industries, Inc., in the mid- to late-1960s (assumed to be the area where Weldon Leather disposed of waste leather).

Records Research Report Comments

Constructed primarily as a facility for the loading of .30 and .50 caliber machine gun belts. The structure, located 800 feet east of the viaduct for the westbound Southern Pacific Railroad, was built on a concrete foundation with 10-inch concrete walls and a concrete slab roof, and covers an area of 30,690 ft², with 690 ft² of basement space (ref 196). A concrete pad, located south of the eastern corner of the building, was used to support a 3,500 pounds per square inch (psi) gasoline-powered air compressor (ref 606). Degreasers, paints, oils, and thinners were used in Building CL1. The first NIKE missiles serviced in Building CL1 were NIKE Ajax models. The Ajax used a solid fuel (nitrocellulose-nitroglycerin) booster, liquid fuel (nitric acid-aniline) main sustainer motor, and a starting fluid (50:50 mixture of aniline and furfuryl alcohol) (ref 142, 560). Servicing NIKE missiles involved the use of highly flammable and explosive chemicals such as aniline, red fuming nitric acid, furfuryl alcohol, and jet propellant-3 (JP-3). It also required handling the nitrocellulose-nitroglycerin solid fuel (ref 142). NIKE missile body parts serviced in Building CL1 included missile fins, booster fins, thrust structures, igniters, batteries, warheads, and warhead accessory kits. Effluent from the paint spray booth in CL1 was discharged into the flushing room, component room, and sanitary sewer. The flushing room and component room had drain lines installed that discharged to open bottom field drains. According to former Arsenal employee Earl Manor, due to the dumping of scrap leather at the site by Weldon Leather, chromium was detected in surface water by the U. S. Department of Fish and Game. This release resulted in a \$2 million clean-up funded by Benicia Industries, Inc. (Manor, 1997). Records Research could not confirm this. After review of aerial photographs between 1962-1973 Brown and Caldwell was unable to confirm the discoloration listed in the records research report. In particular, review of the 1962 aerial photo in the Records Research Report indicates heavily soiled areas with black material showing up between CL1 and W6. It appears this area is filled with water. Additional was research by interviewing the current landowner, Benicia Industries, and a former employee (Mr. Hientiz) about the location and results from the Weldon Leather Clean-up. There were no records remaining. However, the location of the Weldon leather disposal area likely coincides with the western waste area (See site Waste Areas/Open Ditch).

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	1940s	Unknown	Unknown	<input type="checkbox"/>

Uses: Paint booth

Comments:

Furthest Stage of Environmental Investigation

NONE

COMMENTS

Waste was discharged directly to the sewer, which lead to the open ditch and two open bottom field drains. This site also was used extensively after the Army and prior environmental clean-ups have occurred. The exact location of these post-Army clean-ups are not known but an interview indicates that clean-up may have occurred at the waste areas (See site Waste Areas/Open Ditch). The property owner denied USACE access to the property. The Waste Area, a Valero Refinery Monitoring Well, and Open Ditch sites are downgradient of CL-1 and were investigated. Petroleum hydrocarbons including MTBE were detected in the downgradient groundwater samples. Solvents were detected in upgradient borings suggesting another source of contamination. There is a current site 4186 Park Road under RWQCB review.

PA Summary

DoD Site #

CL1

Area: W

RECOMMENDATIONS

No further DoD action is indicated due to landowner refusing access to property.

PA Summary

DoD Site #

Fillsite 1 (Formerly Landfill 1)

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)
1900s	1918-1920	50545

Current Land Use Industrial-Waterfront

OPERATIONAL HISTORY

DoD Use Type

Landfills and Quarries

DoD Uses

Dump

Secondary DoD Uses

landfill

Post-Army Uses

None Identified. Benicia Industries is proposing the construction of a new rice warehouse. Currently used for temporary parking of imported automobiles arriving by sea.

Flooring

Soil; Asphalt (currently)

Disposal Information

Burning. Other disposal practices unknown.

Activities (inside/outside)

Outside

Records Research Report Addenda Data

(Formerly listed in the Records Research Report as Landfill 1). A document dated 28 September 1907 from the Benicia Barracks Hospital stated, the appropriate measures to be taken to prevent the plague at the Arsenal were to "scrupulously" police any place where rats feed, including shops, kitchens, and stables. All food was destroyed or put away properly. All garbage at the dump was to be burned. It is suspected that the garbage was burned at this fillsite. The fillsite was first identified on a 1918 map of the Arsenal and labeled "dump". This area is also a former swamp or tideland. The Army filled the area in and Building 71 was constructed over the filled area in 1920.

Records Research Report Comments

This fillsite is located within the outline of former Building 71 with the southwest corner of the former building being the westerly starting point of the fillsite which runs approximately three fourths of the length of former Building 71. Building 71 was built in the 1920s and demolished in the 1980s by Benicia Industries. This area was a former swamp or tidelands, which had been filled by the Army. This (fillsite) was in operation at about the turn of the century. Research indicates that burning took place at this facility.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

RI

COMMENTS

In 2000, USACE conducted a geophysical survey in the area to determine if the dump existed. Nine test pits were dug in 2001 at anomalous areas indicated by the geophysical survey. No refuse was found. One of the concrete pilings for former Building

PA Summary

DoD Site #

Fillsite 1 (Formerly Landfill 1)

Area: I

71 was found. Soil and groundwater samples were collected from the test pits. Fuels were reported in soil. Maximum concentration = 2,900 mg/kg motor oil. Methylene chloride, MTBE, cis-12,DCE (18 ug/L), TCE (21 ug/L), diesel fuel (56 ug/L) and motor oil (450 ug/L) were reported in groundwater. The fuels in soil and groundwater may be attributed to the burn dump. During the 2004 Expanded Site Inspection investigation, numerous groundwater samples were collected. There is a solvent plume in shallow groundwater which extends past Fillsite 1. The source is not clear, but may be from a discharge into stormwater drains along Tyler Street.

RECOMMENDATIONS

A risk assessment should be performed.

PA Summary

DoD Site #

Fillsite 3 (formerly the Dumpsite)

Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
CAL TRANS Right-of-Way	STATE OF CALIFORNIA	

Year Bldg. Built	1951	Year Bldg. Removed	Not applicable	Site Area (SqFt)	12972
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Current Land Use Industrial-General

OPERATIONAL HISTORY

DoD Use Type

Tire Rebuild Facility

DoD Uses

Dumpsite

Secondary DoD Uses

Unknown

Post-Army Uses

None Identified

Flooring

Asphalt (currently)

Disposal Information

None Identified

Activities (inside/outside)

Outside

Records Research Report Addenda Data

Dumpsite created in 1951 to consolidate tire storage areas and remove stored tires from Building 155 (ref 13). In 1951, dumpsite received 684 cubic yards of solid waste and 1601 cubic yards of fill.

Records Research Report Comments

Later paved for storing tires in the open.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

Site was known to accept solid waste and for the open storage of tires. Groundwater samples were collected during the 2004 Expanded Site Inspection investigation. Trace amounts of diesel fuel and MTBE were detected. Diesel fuel concentrations are less than the ESL of 640 ug/L. The presence of MTBE indicates a post-Army release.

RECOMMENDATIONS

No additional DoD action is indicated

PA Summary

DoD Site #

Firing range/Demolition area

Area: S

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-110-460	VALERO REFINING COMPANY CALIF				
Year Bldg. Built	Circa 1942	Year Bldg. Removed	Post 1944	Site Area (SqFt)	772471
Current Land Use	Industrial-Limited				

OPERATIONAL HISTORY

DoD Use Type

Demolition and Firing Range

DoD Uses

Demolition of Ammunition/ Test Firing of .45 and .50 Caliber Weapons

Secondary DoD Uses

None Listed

Post-Army Uses

Exxon buffer zone

Flooring

Paved

Disposal Information

Identified as demolition area

Activities (inside/outside)

Outside

Records Research Report Addenda Data

Identified as a demolition area on 1942 map, firing range also depicted.

Records Research Report Comments

Targets for the firing range were set up on the north side of the end of a circular paved area. The circular area is the end of a road that once connected this area (north of State highway 21, now called East 2nd Street) to the rest of the Arsenal; USACE found .45 caliber projectiles in the area during a 1994 site visit, which suggests that the area had been used as a firing range. USACE investigations did not find evidence of demolition activities but, using a magnetometer for a surface survey, got several hits in the area south of the paved circle (ref 544). While on site visit Earth Tech located a piece of OE scrap in the buffer zone area. The scrap was identified as a rotating band for a 155 MM Howitzer round (ref 722).

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

The circular paved area was investigated as part of an Arsenal-wide OE investigation and removal effort conducted by USACE in 2001 (ref 1138). A site visit was conducted and the remnants of the target butt is heavily vegetated but appears to be present. There are possible HTRW related issues in regards to the target butt. During the 2004 Expanded Site Inspection investigation, borings were advanced. Groundwater was not encountered. Soil samples were collected and metal concentrations are below BSLs and do not indicate a significant DoD impact.

RECOMMENDATIONS

No further DoD action is indicated.

PA Summary

DoD Site #

Popping pot (formerly the Incinerator)
 Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-120-010	VALERO REFINING COMPANY CALIF	
CAL TRANS Right-of-Way	STATE OF CALIFORNIA	

Year Bldg. Built: Unknown Year Bldg. Removed: Not applicable Site Area (SqFt): 121996
 Current Land Use: Industrial-General

OPERATIONAL HISTORY

DoD Use Type: Disposal Areas

DoD Uses: Incineration

Secondary DoD Uses: Unknown

Post-Army Uses: None Identified

Flooring: Soil

Disposal Information: None Identified

Activities (inside/outside): Unknown

Records Research Report Addenda Data:
 A Utility map for the Interstate 680 Benicia-Martinez bridge on-ramp construction, dated October 1958, shows an incinerator adjacent to Quarry 2 (ref 720).

Records Research Report Comments:
 No other information about an incinerator in this area was found during the records research.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation: SI

COMMENTS

This has also been called the Armored Fighting Vehicle (AFV) by the USACE. Currently, the area is part of the Benicia-Martinez Bridge Expansion project. The AFV is a World War II era General Grant type tank that was gutted then modified for use as a "popping pot" to destroy unserviceable ordnance. The tank turret was removed and the tank hull was modified to be used as a furnace. A conveyor belt was constructed to feed ordnance to the furnace and a small fuel line supplied diesel fuel to keep the furnace burning. The diesel fuel was likely supplied by a nearby above ground tank a short distance up hill from the AFV. Popping pot operations were periodically stopped and the burned debris dumped into a burial pit near the tank body. In November 2002, the AFV is buried with approximately 8 feet of fill material because of the construction activities in the area. This site was investigated as part of an Arsenal-wide OE investigation and removal effort conducted by USACE in 2001 (ref 1138). See Section 2 of the PA text. During the 2004 Expanded Site Inspection investigation, groundwater was collected approximately 300 feet downgradient of the AFV. Diesel fuel and motor oil was present in shallow and deep groundwater

PA Summary

DoD Site #

Popping pot (formerly the Incinerator)

Area: M

samples. In the deep groundwater sample diesel fuel and motor oil concentrations (90 and 160 ug/L respectively) were detected. These concentrations are below the ESLs of 640 ug/L. The shallow groundwater sample collected contained 910 ug/L diesel fuel and 3000 ug/L motor oil, both above the ESLs.

RECOMMENDATIONS

Further investigation is recommended to determine if the source of diesel fuel and motor oil is AFV or from another source.

PA Summary

DoD Site #

Post Dumpsite (formerly Landfill 3)
 Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-130-040	BENICIA CITY	1158 BAYSHORE ROAD
0080-130-060	BENICIA CITY	
0080-130-090		
0080-130-100		

Year Bldg. Built: 1940 Year Bldg. Removed: Not applicable Site Area (SqFt): 1247923
 Current Land Use: Industrial-Waterfront

OPERATIONAL HISTORY

DoD Use Type
 Disposal Areas

DoD Uses
 Dumpsite

Secondary DoD Uses
 Currently used a storage area for cars.

Post-Army Uses
 Humble Oil was given permission in 1968 to use the north end of Area M for the deposit of dredging and construction spoils. Currently used by Toyota Motor Sales Co. for open storage of imported vehicles (ref 544).

Flooring
 Asphalt (currently)

Disposal Information
 This landfill was in operation from 1940 to 1964 and may have received a variety of wastes to be burned and/or buried.

Activities (inside/outside)
 Outside

Records Research Report Addenda Data
 An interview with a former Arsenal employee indicates that this area also received drums of industrial waste including acids, metal-cleaning corrosives, DDT, high-octane gasoline, and every type of waste generated at the Arsenal (ref 1000). According to the 1961 Facility Data Sheet, "metal cleaning coorsives from tanks" were "disposed of in filled land area." (ref 196).

Records Research Report Comments
 The landfill was reportedly in operation from 1940 through 1964, located near Suisun Bay. A graded outline in aerial photographs consists of 20 acres. It is suspected that the disposal and burning of scrap lumber associated with the Carpenter Shop facilities in Area I, and pilings and other waste material from repairs made to the Arsenal Wharf (ref 155) were placed at landfill. Thousands of gallons of gasoline were reportedly burned in the landfill pits (Bailey, 1997). The landfill was reportedly in operation from 1940 through 1964, located near Suisun Bay. A graded outline in aerial photographs consists of 20 acres. It is suspected that the disposal and burning of scrap lumber associated with the Carpenter Shop facilities in Area I, and pilings and other waste material from repairs made to the Arsenal Wharf (ref 155) were placed at landfill. Thousands of gallons of gasoline were reportedly burned in the landfill pits (Bailey, 1997). Based on aerial photographs, a large area at the north end of the site, that extends north to the drainage canal, and identified as the Area 10 Dump Site in the 1997 USACE Archives Search Report (ref 544), does not appear to have been used for landfill purposes. According to the aerial photographs, only a graded area. Circular pits are shown on a 1952 aerial photograph and may represent burn pits. The graded area extends to what was identified as Area 10 but does not include it. The area (including much of the area identified as Area 10) was then referred to as Spoils Area 3 (ref 439). Area is now largely paved, with several buildings constructed over the former 1997). Based on aerial photographs, a large area at the north end of the site, that extends north to the drainage canal, and identified as the Area 10

PA Summary

DoD Site #

Post Dumpsite (formerly Landfill 3)

Area: M

Dump Site in the 1997 USACE Archives Search Report (ref 544), does not appear to have been used for landfill purposes. According to the aerial photographs, only a graded area. Circular pits are shown on a 1952 aerial photograph and may represent burn pits. The graded area extends to what was identified as Area 10 but does not include it. The area (including much of the area identified as Area 10) was then referred to as Spoils Area 3 (ref 439). Area is now largely paved, with several buildings constructed over the former fill area.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

Additional research was conducted by Brown and Caldwell to determine if the current landowner had any knowledge of encountering any refuse materials in the area of a suspected landfill, also known as Area 7 and Open Storage (OS) Area 27. Brown and Caldwell interviewed the current landowner, Benicia Industries (BII) and a former employee, Mr. Don Heintz. Mr. Heintz has over 20 years as an engineer with BII. He also worked in the Benicia area for PG&E prior to working for BII. He was the engineer for road construction and was also involved with installing utility poles as well as digging ditches. Mr. Heintz never encountered any refuse during any excavation for repair of utilities on installing utility poles in this area. He did encounter timbers at approximately 3 to 4 feet below grade that are placed on top of the former clayey marsh with fill placed on top of the timbers. According to the USACE, this was common practice. Both Mr. Heintz and the current landowner state that water beneath this area rises and falls with the tide. Based on the lack of credible evidence of any landfilling operations, this area was not used as a landfill. There are circular pits shown on aerial photos that may have been the location of reported burn pits. Further analysis was performed to try to accurately depict the information available for this area. The information recorded in historical documents and interviews about this area is listed below in chronological order:

- 1928 aerial photograph (RRR, Appendix A-2): The area is undisturbed marshlands.
 - 1945 aerial photograph (RRR, Appendix A-2): The area is partially filled in (closest to the railroad trestle crossing the Carquinez Strait). Dumping is not apparent.
 - September 7, 1945 Arsenal Map (RRR, ref 650): There are no structures or activity noted on this map in this area.
 - 1947 aerial photograph (RRR, Appendix A-2): Entire area is disturbed and filled. No other activity present. The activity seen on the 1945 aerial photo is not present.
 - 1950s (exact date unknown): Benicia Bomber article about money-saving operations by the Arsenal Carpenter Shop states "small unusable lumber scraps are hauled to the sanitary fill on the bay shore road for open burning." (RRR, ref 155, pg 5).
 - 1952, 1957, 1959, and 1962 aerial photographs (RRR, Appendix A-2): The first occurrence of OS27 (paved area with unknown materials neatly stored). Two black circular areas are present at the north end of the site. These maybe the burn pits mentioned in the Mr. Leroy Bailey interview (see below) and referenced as the areas of open burning in the Benicia Bomber article. Dumping is not apparent. The area surrounding Open Storage Area 27 is filled in for access. The filled area reaches near the Carquinez Strait in some places.
 - September 7, 1954: General Map. "Post Dump" marked on map as "27-A" south of "27" and adjacent to temporary building "T-227" (RRR, ref 646). The numbers refer to "Open Surfaced Areas". Some of them are also known as Open Storage (OS) Areas. For example, OS-27.
 - May 10, 1961: Facility Data states "Metal cleaning corrosives removed from tanks and disposed of in filled land area" (RRR, ref 196, pg 9).
 - 1973 aerial photograph (RRR, Appendix A-2): Army gone, area defined by dirt roads, circular areas not present.
 - 1978 aerial photograph (RRR, Appendix A-2): Area completely paved.
 - 1997 Mr. James Milburn Interview: Mr. Milburn, a former Arsenal employee from 1941 to 1963 stated: "After the clocktower dumpsite was closed (Fillsite 2), a larger dumpsite was opened near the bay. It was used from the late 1940s until 1962." (Archive Search Report Supplemental, USACE, 1997).
 - 1997 Mr. Leroy Bailey Interview (not found, text below from RRR, pg 2M-17): Mr. Bailey, former Arsenal employee, indicated that this area received industrial waste including acids, metal-cleaning corrosives, DDT, high-octane gasoline, and every type of waste generated at the Arsenal. He also indicates that thousands of gallons of gasoline was burned in pits.
 - 2003 Mr. Don Heintz Interview: Mr. Heintz, former chief engineer for Benicia Industries, Inc. for 20 years, never encountered any refuse during any excavation to repair or install utilities in this area. Wood timbers were found.
- In summary, the area was a dumpsite of metal cleaning corrosives that also contained residual quantities of heavy metals from approximately 1954 to 1961. At the north end of the area, burning of wood was also performed in two circular pits during the same time frame. During the 2004 Expanded Site Inspection investigation, several groundwater samples were collected. Metal

PA Summary

DoD Site #

Post Dumpsite (formerly Landfill 3)

Area: M

results do not indicate a significant DoD impact. However, another consultant identified TCE and diesel fuel in groundwater in the southern portion of the Post Dumpsite.

RECOMMENDATIONS

The presence of fuels and solvents should be investigated further to delineate contaminants.

PA Summary

DoD Site #

Salvage yard

Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-110-080	SOUTHERN PACIFIC CO	
0080-340-060	RUSZEL JOHN P II	2980 BAYSHORE ROAD

Year Bldg. Built Unknown Year Bldg. Removed Unknown Site Area (SqFt) 188046

Current Land Use Industrial-General

OPERATIONAL HISTORY

DoD Use Type

Storage Areas

DoD Uses

Salvage Yard

Secondary DoD Uses

Unknown

Post-Army Uses

None Identified

Flooring

Asphalt (currently)

Disposal Information

A former Arsenal employee indicated that oil and gas were drained from vehicles directly to the ground surface in the surrounding area.

Activities (inside/outside)

Outside

Records Research Report Addenda Data

None Listed

Records Research Report Comments

Beneficial use. Used for salvaging various parts, equipment, and metals. During DoD occupation, used to store reconnaissance vehicles sold for scrap. Per Bailey, former Arsenal employee, oil and gas were drained from vehicles directly to the ground surface in the surrounding area.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

RI

COMMENTS

Based on the report about oil and fuel drained from vehicles directly to the ground surface, the site requires further investigation. During the 2004 Expanded Site Inspection investigation, groundwater samples were collected. Fuels and motor oil were not detected in shallow groundwater. Deeper groundwater samples contained low levels of petroleum hydrocarbons in the diesel range, however, the peaks on the chromatograph indicate non-fuel related compounds.

RECOMMENDATIONS

No further DoD action is indicated.

PA Summary

DoD Site #

Spur A

Area: R

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-010-100	GONSALVES RITA A	
Year Bldg. Built	1944	Year Bldg. Removed
		1948-1954
Current Land Use	Industrial-Limited	Site Area (SqFt)
		37536

OPERATIONAL HISTORY

DoD Use Type
Revetment Area

DoD Uses
Revetment and Burn Cage Area/Hydrazine Burn Area (1958/59)

Secondary DoD Uses
None Identified

Post-Army Uses
None Identified

Flooring
Concrete

Disposal Information
The hydrazine was poured into an existing concrete structure measuring approximately 6 feet by 6 feet, and ignited using an electric squib (device for firing an explosive). It took approximately 3 to 4 months to dispose of the fuel.

Activities (inside/outside)
Outside/Inside

Records Research Report Addenda Data
In 1958 and 1959 eight or nine 55-gallon drums of Hydrazine (guided missile ignition fuel) were shipped by railroad to the Arsenal for disposal by explosive ordnance disposal (EOD) personnel.

Records Research Report Comments
An existing concrete structure measuring approximately 6 feet by 6 feet was used for disposing of the ignition fuel. (In addition, a former Arsenal employee (Mr. Putnam) indicated that two burn cages were located in the area of Spur A. The exact number and locations of burn cages are not known. Burn cages were constructed typically with concrete lower walls (approximately 2 feet high) and a concrete floor, with mesh screening upper walls and roof. According to personal accounts, the .30, .50, and .37 caliber ammunition was dumped into the cage, covered with kerosene, then set on fire. After two to three burns, the ammunition burning process destroyed the wire mesh cage; it would then be rebuilt in the same location. Burn cages were used from approximately 1948 to 1954. (ref 1000))

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation
NONE

COMMENTS

There are no remnants of any concrete structure or the Spur. Hydrazine was reportedly stored at this site and was disposed of by burning in a concrete structure. Hydrazine is very volatile and will continue to burn by exothermic decomposition. The chemicals of concern would be the by-products of hydrazine, nitrosamines. Based on the chemical, fate and transport properties of nitrosamines, any by-products that impacted soil or groundwater 50 years ago are not likely to be found because they quickly

PA Summary

DoD Site #

Spur A

Area: R

biodegrade, have a very high volatility and are very soluble. There were reports of burn cages in the area of Spur A. Kerosene was poured directly on the ammunition in the burn cage (likely in small quantities just to get the wooden crates containing the ammunition wet). After the burning process, metal and ash remained inside the structure. The metal was removed for salvage. The ash was likely composed of "residues" and wood. (The ammunition was boxed in wood crates then dowsed in kerosene before lit on fire). It is unknown where the ash may have been discarded. It is possible that this ash may contain heavy metals and explosive residue. Based on recent field visits and over 50 years of post-Army activity in the area, the likelihood of finding this ash is remote. Sampling at Spur A during the 2004 Expanded Site Inspection investigation was based on sample results from Spur E. No solvents or explosives were detected. Diesel fuel was the only hydrocarbon detected and it was below the ESL of 640 ug/L. Therefore, no sampling occurred at Spur A.

RECOMMENDATIONS

No further DoD action is indicated.

PA Summary

DoD Site #

Spur E

Area: R

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-010-050	DAVID STEPHEN F	
Year Bldg. Built	1944	Year Bldg. Removed
		1948-1954
Current Land Use	Industrial-Limited	Site Area (SqFt)
		31554

OPERATIONAL HISTORY

DoD Use Type
 Revetment Area

DoD Uses
 Revetment and Burn Cage Area

Secondary DoD Uses
 Unknown

Post-Army Uses
 Industrial building site. Storage area of numerous vehicles, boats, scrap metal, concrete, old equipment, a railroad car, storage containers, etc.

Flooring
 Unknown

Disposal Information
 Ammunition was burned in the cage and set on fire with kerosene.

Activities (inside/outside)
 Inside/Outside

Records Research Report Addenda Data
 None Listed

Records Research Report Comments

According to a former Arsenal employee (Mr. Bailey), burn cages were constructed with concrete lower walls and a concrete floor, with mesh screening upper walls and roof. Most of the cages were square or rectangular. A Benicia Arsenal Magazine photograph shows a man standing amongst thousands of burned shells. Assuming that the man is approximately 6 feet tall, it appears that the concrete walls were at least 6 feet high. Photos in the Benicia Arsenal Magazine (ref 270) shows the same burn cage before, during and after the burn. Based on features in the background of the photos, especially the photo during the burn, old drawings and topography, the burn cage pictured in these photos is at Spur E.

According to personal accounts, the .30, .50, and .37 caliber ammunition was dumped into the cage, covered with kerosene, then set on fire. After two to three burns, the ammunition burning process destroyed the wire mesh cage; it would then be rebuilt in the same location. Burn cages were used from approximately 1948 to 1954. Through December of 1948, a total of 6,518 tons of small arms ammunition was demolished using burn cages. The value of scrap metal recovered totaled \$695,697.59 (ref 172). The market value of the scrap metal at that time (1951) was estimated at \$20,000 (ref 270).

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation
 RI

COMMENTS

There are no remnants of any concrete structure or the Spur. Kerosene was poured directly on the ammunition in the burn cage.

PA Summary

DoD Site #

Spur E

Area: R

The scrap metal was sold as salvage. There has been no reported investigations in the area of this former burn cage to determine any HTRW impacts. After the burning process, metal and ash remained inside the structure. The ash was likely composed of these "residues" and wood. (The ammunition was boxed in wood crates then doused in kerosene before lit on fire). It is unknown where the ash may have been discarded. It is possible that this ash may contain heavy metals and explosive residue. Based on recent field visits and over 50 years of post-Army activity in the area, the likelihood of finding this ash is remote. During the 2004 Expanded Site Inspection investigation, native near surface soil and groundwater samples were collected. Two 5-point composite soil samples were collected upgradient and downgradient of the burn cage. All metal concentrations were below BSLs. Diesel fuel was reported in one of the two groundwater samples collected. The concentration, 210 ug/L, is below the ESL of 640 ug/L. No other fuels, solvents, or explosives were detected.

RECOMMENDATIONS

No further DoD action is indicated.

PA Summary

DoD Site #

Spur G

Area: R

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-030-060	WEST COAST HOME BUILDERS INC	
0083-220-080	BENICIA CITY	

Year Bldg. Built	1944	Year Bldg. Removed	1948-1954	Site Area (SqFt)	174303
Current Land Use	Industrial-Limited				

OPERATIONAL HISTORY

DoD Use Type
 Revetment Area

DoD Uses
 Revetment and Burn Cage Area

Secondary DoD Uses
 Unknown

Post-Army Uses
 Industrial building site. Benicia Police Department firing range located near Spur G.

Flooring
 Unknown

Disposal Information
 Ammunition was burned in the cage and set on fire with kerosene.

Activities (inside/outside)
 Inside/Outside

Records Research Report Addenda Data
 None Listed

Records Research Report Comments
 According to a former Arsenal employee (Mr. Bailey), burn cages were typically constructed with concrete lower walls (approximately 2 feet high) and a concrete floor, with mesh screening upper walls and roof. Most of the cages were square or rectangular.
 According to personal accounts, the .30, .50, and .37 caliber ammunition was dumped into the cage, covered with kerosene, then set on fire. After two to three burns, the ammunition burning process destroyed the wire mesh cage; it would then be rebuilt in the same location. Burn cages were used from approximately 1948 to 1954.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation
 NONE

COMMENTS

The location of the suspected burn cage is not known. There are no remnants of the suspected burn cage or the spur and general location of former Spur G is covered by several feet (up to 15 feet in some places) of fill material. The exact location of any burning is impossible to find due to this fill material. The current landowner, uses the area around Spur G for storage of numerous vehicles, boats, scrap metal, concrete, old equipment, a railroad car, storage containers, etc. Sampling at Spur G during the 2004 Expanded Site Inspection investigation was based on sample results from Spur E. No solvents or explosives were detected. Diesel fuel was the only hydrocarbon detected and it was below the ESL of 640 ug/L. Therefore, no sampling

PA Summary

DoD Site #

Spur G

Area: R

occurred at Spur A.

RECOMMENDATIONS

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

PA Summary

DoD Site #

T199

Area: I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-460	BENICIA INTERNATL ASSOC	
Year Bldg. Built	1953	Year Bldg. Removed
		1970's
Current Land Use	Industrial-Waterfront	
	Site Area (SqFt)	7200

OPERATIONAL HISTORY

DoD Use Type
Industrial/Manufacturing Shops

DoD Uses
Maintenance Building, Body and Radiator Shop

Secondary DoD Uses
Fuel type

Post-Army Uses
1973: Voss International Corp. for office space and pipe storage (ref 425), Alaska International Trading Co. for office space and for the storage of logs (ref 418). 1974 to 1979: Dr. Pepper Bottling Co. for manufacture and storage of soda (ref 587).

Flooring
Unknown

Disposal Information
Unknown

Activities (inside/outside)
Unknown

Records Research Report Addenda Data
Radiator Shop in the building had a Test Tank with lifting device, steam flush booths, and an infrared oven (ref 714). Originally constructed as a temporary facility and a maintenance building, body and radiator shop in the former location of Building 165A.

Records Research Report Comments
Demolished in the late 1970's by Benicia Industries. Records research indicates that Building 165A was replaced by T199 in 1953.

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	Unknown	Unknown	Pre 1970s	Unknown	<input type="checkbox"/>
Uses: Radiator Testing									
Comments:									
2	Booths	US Army	0	Unknown	Water	Unknown	Pre 1970s	Unknown	<input type="checkbox"/>
Uses: Steam flushing of radiators									
Comments: Unknown how many flush booths.									

Further Stage of Environmental Investigation

RI

PA Summary

DoD Site #

T199

Area: I

COMMENTS

The building is gone, subsequently the test tank and booths are also gone. There are no drawings to indicate the location of these features within the former building. This building appeared to be used as a steam cleaning facility for vehicles. It is unknown the type of waste disposal that was used or waste management practices for the steam cleaning materials. During the 2004 Expanded Site Inspection investigation, groundwater samples were collected downgradient of the former building. Cis-1,2 DCE and chloroform were detected at 4.9 ug/L and 0.38 ug/L, respectively. No other fuels or solvents were detected. These results appear to have originated upgradient from activities that occurred in Building 165.

RECOMMENDATIONS

A risk assessment is recommended on the detected contaminants.

PA Summary

DoD Site #

T221

Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-120-210	BENICIA INDUSTRIES INC	1997 ELM ROAD
Year Bldg. Built	1953	Year Bldg. Removed
		Not applicable
Current Land Use	Industrial-Limited	Site Area (SqFt)
		9996

OPERATIONAL HISTORY

DoD Use Type

Motor Pool Area

DoD Uses

Garage Vehicle Maintenance

Secondary DoD Uses

Unknown

Post-Army Uses

1973: Nelson Neon for an office and electrical sign fabrication and repair shop (ref 418). 1974: Browning-Ferris for equipment maintenance (ref 587). 1977: Browning-Ferris as a refinery equipment cleaning facility (ref 702). In addition, a 1-acre area between T221 and Park Road was leased to the Cal Auto Center in 1976 for vehicle storage (ref 586).

Flooring

Structure made of concrete & aluminum

Disposal Information

None Identified

Activities (inside/outside)

Inside

Records Research Report Addenda Data

A 1954 map (ref 646) identified this building as a vehicle repair shop. A Building Zone list from 1962 identified Building T221 as a Sedan Shed and Heavy Duty Repair shop with a planned vacate date of March 1964 (ref 713).

Records Research Report Comments

Built of concrete and aluminum in 1953 (ref 196). The building is no longer present. Available records do not identify when or by whom the building was removed.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

Automotive maintenance and repair was performed in this building. Disposal practices unknown. During the 2004 Expanded Site Inspection investigation, a boring downgradient of the building was advanced. No groundwater was encountered. A soil gas sample was collected and no analytes were detected above method detection limits. Chloroform was reported in a soil gas sample collected at a nearby, Building 171. Chloroform could not be linked with vehicle maintenance activities. Therefore, there is no evidence of a DoD release at this site.

RECOMMENDATIONS

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

PA Summary

DoD Site #

T222

Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)

0080-120-210

Owner Name

BENICIA INDUSTRIES INC

Site Address

1997 ELM ROAD

Year Bldg. Built

1953

Year Bldg. Removed

Not applicable

Site Area (SqFt)

630

Current Land Use

Industrial-Limited

OPERATIONAL HISTORY

DoD Use Type

Motor Pool Area

DoD Uses

Steam Cleaning

Secondary DoD Uses

Unknown

Post-Army Uses

None Identified

Flooring

Concrete

Disposal Information

None Identified

Activities (inside/outside)

Inside

Records Research Report Addenda Data

A 1954 map identified this building as a steam cleaning facility (ref 646). A Building Zone list from 1962 identified this building as a Steam Rack facility (ref 713).

Records Research Report Comments

Constructed of concrete with a corrugated iron roof in 1953 (ref 196). Building no longer present - removal date unknown.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

Unknown what was being steam cleaned. Unknown type of disposal practices. During the 2004 Expanded Site Inspection investigation, a boring downgradient of the building was advanced. No groundwater was encountered. A soil gas sample was collected and no analytes were detected above method detection limits. Chloroform was reported in a soil gas sample collected at a nearby, Building 171. Chloroform could not be linked with vehicle maintenance activities. Therefore, there is no evidence of a DoD release at this site.

RECOMMENDATIONS

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

PA Summary

DoD Site #

TO73

Area: M

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-120-210	BENICIA INDUSTRIES INC	1997 ELM ROAD
Year Bldg. Built	1946	Year Bldg. Removed
		Not applicable
Current Land Use	Industrial-Limited	Site Area (SqFt)
		7201

OPERATIONAL HISTORY

DoD Use Type

Hospital, Laundry, and Temporary Buildings

DoD Uses

Recreation and Storage Building/Photo Lab/Depot Facilities Shop

Secondary DoD Uses

Unknown

Post-Army Uses

Tenant records from 1973 show that Dillingham Construction Corp., a dredging and general construction company, used TO73 as an office. The Wm. Simpson Construction Co., a Dillingham subsidiary, also used the facility for forklift storage and repair (ref 425). In 1975, TO73 was leased to General Overland Transport for vehicle storage (ref 587).

Flooring

Unknown

Disposal Information

None Identified

Activities (inside/outside)

Inside

Records Research Report Addenda Data

Based on Drawing 6209, dated 3 April 1959 (ref 603), building operations consisted of spray painting and cleaning area. The building contained a work area, a carpentry shop, offices, and storage rooms. On the southern end of the building was a photography laboratory. A steam cleaning area and a dry type spray booth were located on the east side of the building. According to the 1961 Facility Data Sheet, the building was being used for storage and had previously been used as a recreation building (ref 196).

Records Research Report Comments

Built as a Theatre of Operations building and was located approximately 200 feet east of Pine Lake. Renovations were planned for TO73 to become a Depot Facilities shop in 1959. Records did not indicate if the renovations took place. The building was later demolished.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

SI

COMMENTS

Unknown what happened to the photo lab, steam cleaning area, and spray booth. Disposal activities were not listed. During the 2004 Expanded Site Inspection investigation, a boring downgradient of the building was advanced. No groundwater was encountered. A soil gas sample was collected and no analytes were detected above method detection limits.

PA Summary

DoD Site #

TO131

Area: I

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-140-430	BENICIA INDUSTRIES INC	
Year Bldg. Built	1940s-1950	Year Bldg. Removed
		1958-1964
Site Area (SqFt)	4480	
Current Land Use	Industrial-Waterfront	

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Storehouse/Shop

Secondary DoD Uses

Storage

Post-Army Uses

None Identified

Flooring

Concrete

Disposal Information

There were drain lines connected to sanitary sewer.

Activities (inside/outside)

Inside

Records Research Report Addenda Data

TO131 was built in the 1940's and then renovated in the 1950's. Drawing 4920, dated 16 April 1951, identifies the building as containing a boiler room, a still (potentially for solvent refining), hot and cold tanks, a paint booth, rinse tanks, alkali tanks, acid tanks, and a drain line connecting these tanks to a sanitary sewer. TO131 also housed a roto-blast unit. Included in the drawing is a degreaser pit at 3 feet below grade and covered with 2-inch planking (ref 302). Renovated on 9 May 1951 to accommodate new-link operation for testing, firing and storage of ammunitions. According to the records, the Arsenal linked straight all Grade AC, Cartridge, API, Caliber .50, M8 on hand. The records state, all quantities in cartons should be linked and tracer and incendiary rounds should be removed from all quantities presently linked in this manner. All lots of tracer so removed should be test fired and all tracing 80 percent or better should be packed in cartons and M8 boxes and stored for future use. All failing trace test and all incendiary rounds should be demilitarized. This document also notes that approximately 700,000 rounds of T11DF and T11DJ (these acronyms have not yet been defined) were on hand for this operation. Included in the description of the items in the construction project were an oil-fired, flash-type, 50 HP Clayton burner, and a storage tank of unspecified use or size (ref 198). In 1952, a Brown and Caldwell survey indicated operations performed in this building included degreasing, dipping, preserving and painting (ref 405).

Records Research Report Comments

Structure removed by DoD. Arsenal assignment from Air Force to test, destroy or store ammunitions on-site. Structure appears on a 1958 map (ref 643).

ENVIRONMENTAL SUMMARY

Vessel Inventory

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

DoD Site #

TO131

Area: I

Vessel Inventory

	Type	Original Owner	Size (Gal.)	Construction	Commodity Stored	Date Installed	Date Removed	Post- Army	Installed Post-Army
Vessel # 1	AST or UST?	US Army	0	Unknown	Unknown	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Unknown								
	Comments: A storage tank of unspecified use and size (ref 198), located with boiler.								
Vessel # 2	Pit	US Army	2200	Wood	Unknown	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Contained a degreaser								
	Comments: Drawing 4920, dated 16 April 1951 identification. Degreaser sits in a pit (3 ft below grade) lined with timbers. The type of floor not noted and not symbolized like concrete. Dimensions: 3 ft deep, 7 ft wide, 14 ft long								
Vessel # 3	AST	US Army	1140	Unknown (likely steel)	Acid	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 4.5 ft high 4.5 ft wide 7.5 ft long								
Vessel # 4	AST	US Army	1140	Unknown (likely steel)	Water	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 4.5 ft high 4.5 ft wide 7.5 ft long								
Vessel # 5	AST	US Army	1140	Unknown (likely steel)	Alkali Solution	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 4.5 ft high 4.5 ft wide 7.5 ft long								
Vessel # 6	AST	US Army	1140	Unknown (likely steel)	Water	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 4.5 ft high 4.5 ft wide 7.5 ft long								
Vessel # 7	AST	US Army	1080	Unknown (likely steel)	Hot Water	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 4.5 ft high (assumed) 4 ft wide 8 ft long								
Vessel # 8	AST	US Army	540	Unknown (likely steel)	Hot Water	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 4.5 ft high (assumed) 4 ft wide 4 ft long								
Vessel # 9	AST	US Army	1080	Unknown (likely steel)	Cold Water	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 4.5 ft high (assumed) 4 ft wide 8 ft long								
Vessel # 10	AST	US Army	1140	Unknown (likely steel)	Unknown	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Not labeled. Dimensions: 4.5 ft high (assumed) 4 ft wide 8 ft long								
Vessel # 11	AST	US Army	540	Unknown (likely steel)	Unknown	1940s	Unknown	No	<input type="checkbox"/>
	Uses: Dip Tank								
	Comments: Drawing 4920, dated 16 April 1951 identification. Not labeled. Dimensions: 4.5 ft high (assumed) 4 ft wide 4 ft long								

PA Summary

DoD Site #

TO131

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	Unknown	1940s	Unknown	No	<input type="checkbox"/>
Uses: Potentially for solvent refining Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 2 ft wide by 3 ft long, unknown height									
Vessel # 13	Booth	US Army	0	Unknown	Paints	1940s	Unknown	No	<input type="checkbox"/>
Uses: Paint booth Comments: Drawing 4920, dated 16 April 1951 identification. Dimensions: 10 ft by 11 ft, unknown height									

Furthest Stage of Environmental Investigation

RI

COMMENTS

The structure was removed by DoD. Further review of Drawing 4920 (ref 302) shows two (2) process lines and a paint booth located under a canvas covered shelter on the south side of TO131. The boiler room generated steam for the process lines. Based on the time period (1940s-1950s) the boiler was powered by natural gas or electricity. Each process line had a monorail. Only 1 of the process lines shows drain lines, which was connected to the sanitary sewer. See the vessel inventory for number and types of tanks shown on this drawing. Tanks were supported by redwood timbers, which were sitting on asphalt. There are 2 tanks not labeled. Process line configuration (in order): dip tank [unlabeled], dip tank [unlabeled], cold tank dip, hot tank dip, degreaser, paint booth. The process line configuration (in order): rinse dip, alkali dip, acid dip, degreaser, paint booth. During the 2004 Expanded Site Inspection investigation, a boring downgradient of the building was advanced. No groundwater was encountered. A soil gas sample was collected. No analytes were detected above method detection limits.

RECOMMENDATIONS

No further DoD action is indicated.

PA Summary

DoD Site #

Waste Areas/Open Ditch

Area: W

NDAI FAR IRR Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address
0080-090-280	PARACHINI BENICIA PROP LP	
0080-090-610	PARACHINI BENICIA PROP LP	3701 INDUSTRIAL
0080-110-260	BENICIA INDUSTRIES INC	

Year Bldg. Built	1942	Year Bldg. Removed	Unknown	Site Area (SqFt)	21624
Current Land Use	Industrial-General				

OPERATIONAL HISTORY

DoD Use Type

NIKE Missile Repair and Support Facilities

DoD Uses

Waste Areas/Open Ditch

Secondary DoD Uses

None Identified

Post-Army Uses

Benicia Industries, Inc., granted dumping rights under the lease to Weldon Leather to dispose of their waste leather in the area. It was estimated that 10,000 to 12,000 cubic yards of scrap leather were dumped between 1965 and early 1969 when Benicia Industries, Inc., stopped the practice. The leather waste was to be disposed of in the future at an approved dump in Contra Costa County between Martinez and Concord (ref 594). According to the minutes of a meeting of the Benicia Industries, Inc., Executive Committee, dated 30 April 1974, a Cleanup and Abatement Order was issued by the Regional Water Quality Control Board (RWQCB) that required Benicia Industries, Inc., to remove all scrap leather dumped in the vicinity of CL1 by Weldon Leather. Recorded in the minutes of Executive Committee meetings, dated 25 and 26 June 1974, the costs for removing the scrap leather were higher than previously estimated because the volume of scrap material uncovered was much greater than anticipated. The bulk of the material had been removed and the RWQCB had granted additional time to complete the final cleanup after the area dried out (ref 593).

Flooring

Unknown

Disposal Information

None Identified

Activities (inside/outside)

Outside

Records Research Report Addenda Data

An open ditch, identified on Drawing 5765, was used to dispose of waste from the septic tanks (Buildings 194 and 195), CL1, CL2, and W6 (ref 606). The drawing did not identify where the open ditch drained to, but it appeared to lead directly to the drainage canal (Sulfur Springs Creek Drainage Canal). The open ditch is located west of Building CL1, and the waste areas are indicated to the east and south of Building CL1 (refs 605 and 606).

Records Research Report Comments

Effluent from the paint spray booth in CL1 was discharged into the flushing room, component room, and sanitary sewer. The flushing room and component room had drain lines installed that discharged to open bottom field drains. The western waste area, south of CL1, is likely the area of the former Weldon leather disposal area.

ENVIRONMENTAL SUMMARY

PA Summary

DoD Site #

Waste Areas/Open Ditch

Area: W

Furthest Stage of Environmental Investigation

RI

COMMENTS

Research indicates that waste from the NIKE Missile Repair and Support Facilities entered this open ditch. The site of the former NIKE Missile Repair and Support Facilities was also beneficially used and post-Army use into the open ditch may have occurred. An interview was conducted in 2003 with the General Manager of Amports, Inc. (formerly Benicia Industries, Inc) and a former employee of Benicia Industries, Inc. Benicia Industries, Inc and now Amports, Inc. has owned the parcels in this area since the Army left. The purpose of these interviews were to determine if there were any records remaining from the 1970s disposal of scrap leather by Weldon Leather and the subsequent clean-up in this area and then determine if there was any data available to determine the presence or absence of suspected impacts from wastes discharged from CL1. Unfortunately, there were no records remaining. The former employee did locate the area of the former disposal area but apparently no samples were taken. During the 2004 Expanded Site Inspection investigation, several groundwater samples were collected. At the Waste Area, petroleum hydrocarbons including MTBE were detected in the downgradient groundwater samples. Solvents were detected in upgradient samples suggesting another source of contamination. There is a current RWQCB site upgradient of the Waste Area, 4186 Park Drive. At the Open Ditch area, diesel fuel was detected at the Valero Well #117. Diesel fuel and motor oil were found in the Open Ditch samples and in Valero Well #117. Diesel fuel concentrations have steadily increased. The source of the hydrocarbons is not known but appears to be related to a recent release or discharge in the area.

RECOMMENDATIONS

Further action is recommended for the Waste Area. USACE should periodically monitor progress of the RWQCB 4186 Park Drive site. No further DoD action is indicated for the Open Ditch.