

# Regulator Concurrence/ Nonconcurrence Letter



# California Regional Water Quality Control Board

## San Francisco Bay Region



Terry Tamminen  
Secretary for  
Environmental  
Protection

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Arnold Schwarzenegger  
Governor

Date:  
File No. 2129.2078 (GJR)

Department of the Army  
U.S. Army Engineer District  
Sacramento District, Corps of Engineers  
Attn: Ms. Meegan Nagy  
1325 J Street (CESPK-PM-H)  
Sacramento, California 95814-2922

**Subject: Staff Comments on Final Preliminary Assessment Report for the Former Benicia Arsenal, Solano County (April 12, 2004)**

Dear Ms. Nagy:

Staff of the Regional Water Quality Control Board has reviewed the above-referenced document. An appendix to the document contains the response to our February 9, 2004 comments on the draft version of the Preliminary Assessment (PA). Comments on the final PA are as follows:

**Response to Comment 1, DOD Site 177:** Water Board staff comments on the draft PA expressed concern that the fuel source for the gasoline-powered compressor in this area has not been identified or proposed for investigation by the Army. The Army response states that "*USACE requires documentation of features, such as USTs, prior to performing an investigation into possible contamination. There is no documentation indicating a UST was present at Site 177. Therefore, categorization of the site remains NDAI.*" This logic is circular; the absence of documentation indicating a UST does not preclude the presence of some fuel source - UST or AST - at Site 177 to fuel the documented gasoline-powered compressor. State Board Resolution No. 92-49 allows the Water Board to require investigation when a reasonable suspicion of a potential discharge exists. Staff finds such a reasonable suspicion exist at this site continues to recommend investigation in this area to determine whether fuels have been released to soil or groundwater. (Staff also recommends this site be evaluated for emergent chemicals; see Response to Comment 21 below.)

**Response to Comment 2, DOD Site 194:** Water Board staff appreciates the Army's concurrence with the recommendation for additional investigation at this former 4,000

gallon septic system that received industrial waste. Staff finds this site also requires evaluation for emergent chemicals; please see Response to Comment 21 below.

**Response to Comment 3, DOD Site 195:** The draft PA noted the 26,000 gallon septic tank at this location received industrial waste in the form of paint spray booth effluent. The Army maintains this site is ineligible for investigation under the FUDS program:

*"Storm drains, sewage lines and tanks that have been in use since the closure of the former Arsenal are considered to provide beneficial use to current owners. Pursuant to Chapter 3, Section 7.2.3.5 of USACE Engineering Circular EC-200-3-7, DERP-FUDS Program Manual, dated 30 September 1999, beneficially used structures are ineligible for investigation under the FUDS program."*

The Porter-Cologne Water Quality Control Act holds dischargers of waste responsible for cleanup and abatement of pollution from these releases, regardless of whether subsequent owners have re-used certain facilities. Therefore, the Army has the responsibility to investigate the potential for any releases from these structures under Section 13304 of the Water Code and State Board Resolution 92-49. It is not clear that the "area-wide investigation" proposed for adjacent sites is adequate for this potential source area. This site should be recommended for further action.

**Response to Comment 4, DOD Site 26:** Staff notes the Army will obtain sub-meter GPS location information for this UST site for incorporation into the SWRCB's GeoTracker database.

**Response to Comment 5, DOD Site 28:** Staff notes the Army will obtain sub-meter GPS location information for this UST site for incorporation into the SWRCB's GeoTracker database.

**Response to Comment 6, DOD Site 48:** As detailed in staff comments on the draft PA, Army activities at this site had the potential for release of fuels, solvents, and metal plating chemicals. The Army's response to comments states this site is ineligible for investigation under the FUDS program to due to beneficial use by subsequent owners. As with DOD Site 195 (see Response to Comment 3), Porter-Cologne and Resolution 92-49 hold the Army responsible for investigation and cleanup of any of its discharges regardless of subsequent use; therefore, this site should be recommended for further action.

**Response to Comment 7, DOD Site 49:** Army activities at this site had the potential for release of solvents, and painting-related chemicals. The Army's response to comments states this site is ineligible for investigation under the FUDS program to due to beneficial use by subsequent owners. Porter-Cologne and Resolution 92-49 hold the Army

responsible for investigation and cleanup of any of its discharges regardless of subsequent use; therefore, this site should be recommended for further action.

**Response to Comment 8, DOD Site 57A:** The Army's response to this comment asserts the Building 50 Series Complex was beneficially reused and is, therefore ineligible for FUDS investigation. The Army does have responsibility for any releases that occurred during Army ownership or occupancy of the property. As stated in comments on the draft PA, Water Board staff also cannot concur with a no further action recommendation for this specific building because it lies within an area of identified soil and groundwater contamination.

**Response to Comment 9, DOD Site 70:** This building formerly provided power to the entire Arsenal. As stated in previous comments, Water Board staff requested identification of the fuel source for this structure and an investigation into whether the use of fuels at this building resulted in any release(s) to the environment. Staff does not concur with the Army's justification for no further action based on the assertion that there is no "documentation of features, such as USTs." A fuel source was certainly required for this building and therefore constitutes a reasonable suspicion of a potential discharge. If the specific design and location of the fuel storage and distribution system for this building cannot be ascertained, there is the likelihood that USTs provided fuel. An investigation at this area should be conducted to evaluate soils and groundwater for a release of fuels.

**Response to Comment 10, DOD Site 73(A):** This response is acceptable, provided that the source of groundwater contamination at Building 73(A) is identified, and that the Army provides information to the Project Team detailing which specific "further action required" site this area's groundwater contamination is tied to.

**Response to Comment 11, DOD Site 92:** The Army's response states this site cannot be further investigated under FUDS because the sewer system was beneficially used by subsequent landowners. Water Board staff disagrees that the Army could not investigate this site specifically for Army releases. Documented Army use of this site included a photographic lab where wastes were discharged to the sewer. Post-Army uses were limited to office space. Therefore, Water Board staff believe an investigation for photographic wastes along sewer lines is appropriate, and that the Army is responsible for conducting this investigation.

**Responses to Comments 12 and 13, DOD Sites 98 and 99:** Again, the Porter-Cologne Act and Resolution 92-49 hold the Army responsible for Army releases of waste regardless of whether subsequent property owners "beneficially reused" these sites and improvements. Water Board staff continues to find these sites require further investigation.

**Response to Comment 14, DOD Site 118(B):** The Army response states this incinerator site does not require further action because contamination was not found at another incinerator at the former Arsenal. The Army needs to prove this statement. There is insufficient justification to assume no impact is present at this site based solely on findings at another incinerator site. Water Board staff also finds investigation into the fuel source for this incinerator (prior to the 1952 replacement with a natural gas incinerator) is necessary. If a fuel source was required into 1952, it is likely that a fuel source was needed in earlier years and this source should be investigated along with potential impacts from waste incineration.

**Response to Comment 15, DOD Site 179:** This compressor building operated from 1945 onward. Water Board staff requested this site be classified as "further action required" to evaluate the fuel source. The Army states no investigation is indicated because there is no documentation of a fuel source for this building and therefore, the source of fuel cannot be investigated. Water Board staff disagrees. Unless it can be proven that electricity (generated off-site) powered the compressor, there is reasonable suspicion that a petroleum fuel source was required to operate the compressor building. Records may not document a specific fuel source, but an investigation of groundwater at this site would reveal whether impacts have occurred from whatever fuel source (AST, UST, pipeline) existed in the past.

**Response to Comment 16, DOD Site Spur A:** Water Board staff defer to DTSC on whether it is appropriate to sample groundwater only (not soil) for explosive residues at this site because groundwater "represents the highest environmental risk." The Army defers its response regarding emergent chemicals to comment 21. Please see Water Board staff's comments on the Response to Comment 21 below.

**Response to Comment 17, DOD Site Spur E:** The response to this comment is partially acceptable. The Army defers response regarding emergent chemicals to comment 21. Please see comments on the Response to Comment 21 below.

**Response to Comment 18, DOD Site Concrete Lined Underground Tank:** The response to this comment is acceptable and Water Board staff concurs further action is not required with respect to this site.

**Response to Comment 19, DOD Site Landfill (Formerly Landfill 3):** The response to this comment is partially acceptable. The Army defers response regarding emergent chemicals to comment 21. Please see comments on the Response to Comment 21 below.

**Response to Comment 20, DOD Sites Nike Missiles Sites 1 and 2:** The Army response to this comment is provided in Comment 21.

**Response to Comment 21, *Sampling for Emergent Chemicals*:** The Army response states that it is awaiting DOD policy guidance for dealing with emergent chemicals at FUDS sites and will provide specific responses to the Water Board's September 26, 2003 request when guidance has been received. Water Board staff note this commitment and comment that such response must address all of the PA sites where the potential presence of emergent chemicals exists. At this time, the lack of a detailed response on this issue constitutes a data gap in the PA that must be addressed prior to final concurrence on the investigation and potential remediation of environmental contamination at the former Benicia Arsenal.

**Response to Comment 22:** The Army's responses to Water Board staff's comments regarding Army discharge of wastes to the sewer system cite the ineligibility of the system for investigation since it has provided "beneficial reuse" to subsequent owners. This response is applied even in cases where potential Army chemicals of interest are different from those that would apply to subsequent owners. Porter-Cologne and State Board Resolution No. 92-49 clearly state that the discharger (Army) is responsible for the investigation and cleanup of wastes that occurred on its property. FUDS guidance is inconsistent with California Law and Water Board policies; therefore, staff cannot concur with this response.

**Response to Comment 23 Submittal of Documents in Electronic Format:** The response that future documents will be submitted in .pdf format is acceptable.

If you have any questions please contact me at (510) 622-2462 or via email to [gjr@rb2.swrcb.ca.gov](mailto:gjr@rb2.swrcb.ca.gov).

Sincerely,

Gary J. Riley, P.E.  
Water Resource Control Engineer  
Remedial Project Manager

Distribution:

Ms. Christine Parent - DTSC  
Ms. Wendy Linck - FA/BC

# PA Summary

DoD Site #

OS5

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
0080-140-460	BENICIA INTERNATL ASSOC	

Year Bldg. Built: 1940s   Year Bldg. Removed: Not applicable   Site Area (SqFt): 318122

Current Land Use: Industrial-Waterfront

## OPERATIONAL HISTORY

### DoD Use Type

Open Storage Areas

### DoD Uses

Open storage of ordnance and general supplies

### Secondary DoD Uses

Unknown

### Post-Army Uses

Records Research indicates that all OS locations in Area I have been used to store new vehicles for Toyota Motor Company, Volkswagen, Chrysler Motors, Nissan Motor Corp., C. Itoh & Co., Subaru of Northern California, Mazda Motors of America, and American Isuzu Motors, Inc. (ref 539).

### Flooring

Asphalt (currently)

### Disposal Information

None Listed

### Activities (inside/outside)

Outside

### Records Research Report Addenda Data

Used for box and crate storage with a vacate date of March 1964 (ref 713).

### Records Research Report Comments

Beneficial use. Built on reclaimed tidelands.

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

NONE

## COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

## RECOMMENDATIONS

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

PA Summary

DoD Site #

OS12

Area: I

NDAI  FAR  IRR  Potential OE

SITE DESCRIPTION

Parcel # (APN)

Owner Name

Site Address

0080-130-020

BENICIA CITY

Year Bldg. Built

1940s

Year Bldg. Removed

Not applicable

Site Area (SqFt)

121650

Current Land Use

Industrial-Waterfront

OPERATIONAL HISTORY

DoD Use Type

Open Storage Areas

DoD Uses

Open storage of ordnance and general supplies

Secondary DoD Uses

Unknown

Post-Army Uses

Records Research indicates that all OS locations in Area I have been used to store new vehicles for Toyota Motor Company, Volkswagen, Chrysler Motors, Nissan Motor Corp., C. Itoh & Co., Subaru of Northern California, Mazda Motors of America, and American Isuzu Motors, Inc. (ref 539).

Flooring

Asphalt (currently)

Disposal Information

None Listed

Activities (inside/outside)

Outside

Records Research Report Addenda Data

In aerial photographs from 1952, 1957, and 1959, OS12 appears to be used for open storage of ordnance and general supplies.

Records Research Report Comments

Beneficial use

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

NONE

COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

RECOMMENDATIONS

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

# PA Summary

DoD Site #

Quarry 3

Area: I

NDAI  FAR  IRR  Potential OE

## SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0094-671-220	STCKTON SERVICE CORPORATION				
Year Bldg. Built	1850s-1900s	Year Bldg. Removed	1928-1932	Site Area (SqFt)	11225
Current Land Use	Residential-High Density				

## OPERATIONAL HISTORY

### DoD Use Type

fillsites and Quarries

### DoD Uses

Sandstone Quarry

### Secondary DoD Uses

Quarry

### Post-Army Uses

None Identified

### Flooring

Soil

### Disposal Information

None Listed

### Activities (inside/outside)

Outside

### Records Research Report Addenda Data

Quarry 3 is evident on aerial photographs from 1924 and 1928. Quarry 3 does not show up on a 1932 map (ref 651).

### Records Research Report Comments

Potentially used as a fillsite. Located in the vicinity of (former) Building 72. Used from the mid-1800s to the turn of the century to provide stone for the construction of several large structures.

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

SI

## COMMENTS

The location of the quarry is expressed by a bowl-shaped indentation in the bluff along the northern side of former Building 72. In November 2000 through February 2001, USACE conducted a geophysical survey and excavated 5 five test pits to determine if refuse was buried in the quarry fill. Soils samples were collected from the test pits and surface scrapes were collected from the surface soil. There was no refuse buried in the fill material other than some minor construction debris, that may have been buried after the Army. Soil sample results low levels of fuels that maybe from the buried construction debris (asphalt) and in surface soil from post DoD use. No further action under FUDS is recommended.

## RECOMMENDATIONS

No further action under FUDS is recommended.

# PA Summary

DoD Site #

Service Station west of Building 45

Area: I

NDAI  FAR  IRR  Potential OE

## SITE DESCRIPTION

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

## OPERATIONAL HISTORY

### DoD Use Type

Fuel Storage Facilities

### DoD Uses

Civilian Service Station

### Secondary DoD Uses

Fuel type

### Post-Army Uses

None Identified

### Flooring

Unknown

### Disposal Information

None Listed

### Activities (inside/outside)

Unknown

### Records Research Report Addenda Data

None Listed

### Records Research Report Comments

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

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

NONE

## COMMENTS

The location of the suspected service station is unclear due to the conflicting statements from Mr. Byerrum. There are no other references found in the research about this suspected service station other than Mr. Byerrum's statement. Existing aerial photos are not conclusive because the large scale photos makes distinguishing this suspected station from other buildings very difficult. The area has been developed since the 1940s and if the service station existed then the UST was likely removed at that time.

## RECOMMENDATIONS

Based on the limited information no DoD action is indicated (NDAI) for this site.

**PA Summary**

**DoD Site #**

Sewer/Storm Drainage System

**Area:** I

NDAI    FAR    IRR    Potential OE

**SITE DESCRIPTION**

Parcel # (APN)	Owner Name	Site Address
Various	Various	
<b>Year Bldg. Built</b>	1849-1964	<b>Year Bldg. Removed</b>
		Not applicable
<b>Current Land Use</b>	Various	<b>Site Area (SqFt)</b>

**OPERATIONAL HISTORY**

**DoD Use Type**

Utilities

**DoD Uses**

Sewer; storm drain

**Secondary DoD Uses**

Sewer/Storm Drainage

**Post-Army Uses**

The sewer system was retrofitted from 1964 to 1969 and Area I was connected to the City of Benicia Wastewater Treatment facility. The storm drain system remained unchanged.

**Flooring**

Vitrified clay to reinforced concrete

**Disposal Information**

Sewage collection and storm drain system carried the Arsenal's and post Arsenal untreated industrial wastes into both the Carquinez Strait and Suisun Bay.

**Activities (inside/outside)**

**Records Research Report Addenda Data**

**Records Research Report Comments**

The Arsenal was without sewage treatment throughout its history. As was customary at the time, the sewage collection system and the storm drain system, carried the Arsenal's industrial wastes. Collected waters flowed untreated into both the Carquinez Strait and Suisun Bay. Sewage was discharged to the Carquinez Strait at four minor and two major points at the Arsenal. Outfall locations in Area I (points A, B, and C). The Bottle Hill area, approximately 50 acres, was served by a gravity system that terminated in a 36-inch metal pipe storm sewer. A Brown and Caldwell survey report dated 1952, presented to USACE for the "Collection, Treatment and Disposal of the Sewage of Benicia Arsenal, Benicia, California," noted that the practice of dumping raw sewage into the bay was contributing to the "increasingly frequent indications of local waterfront pollution. The San Francisco Bay Regional Water Pollution Control Board had requested that the Arsenal discontinue this practice and to "cease the discharge of crude sewage". Specific requirements setting forth the objectives to be attained by sewage treatment and disposal had already been established for the cities of Vallejo, Martinez, Antioch, and Pittsburgh and soon would be established also for the City of Benicia and Benicia Arsenal. A gravity collection system removed sewage from Area I shops, administrative facilities, and housing to Building 41, the Sewage Pump House. From here sewage was transferred 800 feet to its discharge location at Point B (old wharf). Along the waterfront, just north of Point B, were two minor outfalls: Point C and Point D. Point C discharged waste into the Strait from Building 101, the Battery Shop. The Point D discharged waste served from Buildings 50, 111, and 136 in the equipment yard in Area M. According to the 1952 report, the deficiencies in the Arsenal's sewer system included lines in the area of Buildings 56, 57, 89, and 161 which frequently needed "rodding" to keep them open. Another problem area was with "Point C" sewage line, which repeatedly clogged. With the exception of TO131, the floor drains of all buildings included in the 1952 report were connected to the storm sewer system. Repairs were constantly made to the storm

## PA Summary

DoD Site #

Sewer/Storm Drainage System

Area: I

drain system throughout the Arsenal. According to an Individual Project Estimate for fiscal year 1955, the system between Buildings 71 and 73 had been installed in 1941 with Works Project Administration (WPA) labor and material, and was in need of repair. The document stated that "due to the acid condition of the original swamp land, the existing pipe has deteriorated and silt has seeped in until the pipe will not carry run off water which accumulated on the surface destroying the paved roadway." The repair project consisted of removing of 500 linear feet of existing pipe and replacing it with 960 linear feet of 12-inch diameter asbestos-cement pipe. The report identified eight to nine catch basins in need of cleaning and recommended that any protruding pipe be cut even with the inside of the basin. Drawing 5717 (ref 306) identifies the extensive repairs made to the storm sewer system. Following Arsenal closure, storm drainage, industrial and sanitary sewage disposal systems became the responsibility of the City of Benicia.

Benicia Industries, Inc., completed a sewerage project in 1969 that was given a final inspection 15 January 1970. According to the letter documenting the inspection, the sewerage project was considered complete, and in conformance with plans and specifications. The project was then to be presented to the City of Benicia for acceptance (ref 704).

### ENVIRONMENTAL SUMMARY

#### Furthest Stage of Environmental Investigation

NONE

### COMMENTS

The sewage and storm drain system was a major conveyance of untreated industrial wastes. There are numerous reports of pipes needed repair, especially in area of the unstable swamp area. The sewer/storm drain system was used by landowners after the Army left in 1964. The storm drain system has remained unchanged since the Arsenal closed. Storm drains and sewage lines that have been in use since closure of the former Arsenal are considered to provide beneficial use to the current owners. Pursuant to Chapter 3, Section 7.2.3.5 of USACE Engineering Circular EC-200-3-7, DERP-FUDS Program manual, dated 30 September 1999, beneficially used structures and systems are ineligible for investigation under the FUDS Program.

### RECOMMENDATIONS

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

# PA Summary

DoD Site #

SMOKE STACK

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	Late 1800s	Year Bldg. Removed	1940-1954	Site Area (SqFt)	59
Current Land Use	Mixed Use-Lower Arsenal				

## OPERATIONAL HISTORY

### DoD Use Type

Industrial/Manufacturing Shops

### DoD Uses

Smoke Stack/Incinerator

### Secondary DoD Uses

### Post-Army Uses

None Identified

### Flooring

Concrete

### Disposal Information

None Listed

### Activities (inside/outside)

Inside

### Records Research Report Addenda Data

Historical record dated 5 January 1927 includes an annual sanitary report identifying types of garbage including manure burned in the Arsenal incinerator (ref 131).

### Records Research Report Comments

Removed by DoD. According to Mr. Byerrum, the incinerator was used to burn explosives in the 1940s. The resultant metals were then salvaged.

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

RIFS

## COMMENTS

The location of the former incinerator is visible today. Photos dated in the early 1900s show the incinerator. It is not known when the incinerator was removed. In 1999, USACE conducted an investigation to determine if soil was impacted from any burned residues disposed of in the area of the former incinerator. There was no evidence of impact to soil from explosives or metals from the former smoke stack/incinerator.

## RECOMMENDATIONS

No further action under FUDS was recommended (ref 1207).

# PA Summary

DoD Site #

T116

Area: I

NDAI    FAR    IRR    Potential OE

## SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-140-230	SUBA MFG INC	921 BAYSHORE ROAD			
Year Bldg. Built	1952	Year Bldg. Removed	Not applicable	Site Area (SqFt)	1344
Current Land Use	Industrial-Waterfront				

## OPERATIONAL HISTORY

### DoD Use Type

Carpenter Shops

### DoD Uses

Carpenter Shed Addition

### Secondary DoD Uses

None Listed

### Post-Army Uses

Leased to Solano Machinery Co. (SUBA) 1968-1977 for manufacture of wood and plastic products (ref 587).

### Flooring

Unknown

### Disposal Information

None Listed

### Activities (inside/outside)

Unknown

### Records Research Report Addenda Data

In 1952 the building was constructed to support operations at Building 116 (construction and repairs).

### Records Research Report Comments

Facility beneficially used.

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

NONE

## COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

## RECOMMENDATIONS

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

PA Summary

DoD Site #

T-138  
Area: I

NDAI  FAR  IRR  Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-130-020	BENICIA CITY				
Year Bldg. Built	1954	Year Bldg. Removed	Post 1973	Site Area (SqFt)	1540
Current Land Use	Wharf				

OPERATIONAL HISTORY

DoD Use Type

Wharf Facilities

DoD Uses

Wharf Shed/Storage

Secondary DoD Uses

Storage

Post-Army Uses

Leased to Crescent Wharf and Warehouse for use as gear room beginning 1973 (ref 587).

Flooring

Unknown

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

None Listed

Records Research Report Comments

All types of ordnance and material and supplies, including chemical warfare material were both received and shipped from the Wharf. (Noted as a "Canvas Warehouse" (ref 167)).

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

NONE

COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

RECOMMENDATIONS

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

PA Summary

DoD Site #

T-139

Area: I

NDAI  FAR  IRR  Potential OE

SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-130-020	BENICIA CITY				
Year Bldg. Built	1954	Year Bldg. Removed	Post 1962	Site Area (SqFt)	3370
Current Land Use	Wharf				

OPERATIONAL HISTORY

DoD Use Type

Wharf Facilities

DoD Uses

Wharf Shed/Storage on Wharf 95

Secondary DoD Uses

Storage

Post-Army Uses

None Identified

Flooring

Unknown

Disposal Information

None Listed

Activities (inside/outside)

Inside

Records Research Report Addenda Data

A 1962 Building Zone List identifies Building T-139 as vacant (ref 713).

Records Research Report Comments

All types of ordnance and material and supplies, including chemical warfare material were both received and shipped from the Wharf. (Noted as a "Canvas Warehouse" (ref 167)).

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

NONE

COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

RECOMMENDATIONS

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

# PA Summary

DoD Site #

T-141

Area: I

NDAI  FAR  IRR  Potential OE

## SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-130-020	BENICIA CITY				
Year Bldg. Built	1954	Year Bldg. Removed	Post 1962	Site Area (SqFt)	3370
Current Land Use	Wharf				

## OPERATIONAL HISTORY

### DoD Use Type

Wharf Facilities

### DoD Uses

Wharf Shed/Storage

### Secondary DoD Uses

Storage

### Post-Army Uses

None Identified

### Flooring

Unknown

### Disposal Information

None Listed

### Activities (inside/outside)

Inside

### Records Research Report Addenda Data

A 1962 Building Zone List identifies Building T-141 as vacant (ref 713).

### Records Research Report Comments

All types of ordnance and material and supplies, including chemical warfare material were both received and shipped from the Wharf. (Noted as a "Canvas Warehouse" (ref 167)).

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

NONE

## COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

## RECOMMENDATIONS

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

# PA Summary

DoD Site #

T-143

Area: I

NDAI  FAR  IRR  Potential OE

## SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-130-020	BENICIA CITY				
Year Bldg. Built	1954	Year Bldg. Removed	Post 1962	Site Area (SqFt)	5640
Current Land Use	Wharf				

## OPERATIONAL HISTORY

### DoD Use Type

Wharf Facilities

### DoD Uses

Wharf Shed/Storage

### Secondary DoD Uses

Storage

### Post-Army Uses

None Identified

### Flooring

Unknown

### Disposal Information

None Listed

### Activities (inside/outside)

Inside

### Records Research Report Addenda Data

A 1962 Building Zone List identifies Building T-143 as vacant (ref 713).

### Records Research Report Comments

All types of ordnance and material and supplies, including chemical warfare material were both received and shipped from the Wharf. (Noted as a "Canvas Warehouse" (ref 167)).

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

NONE

## COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

## RECOMMENDATIONS

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

# PA Summary

DoD Site #

T197

Area: I

NDAI    FAR    IRR    Potential OE

## SITE DESCRIPTION

Parcel # (APN)	Owner Name	Site Address			
0080-140-230	SUBA MFG INC	921 BAYSHORE ROAD			
Year Bldg. Built	1953	Year Bldg. Removed	Not applicable	Site Area (SqFt)	4500
Current Land Use	Industrial-Waterfront				

## OPERATIONAL HISTORY

### DoD Use Type

Carpenter Shops

### DoD Uses

Box Shop

### Secondary DoD Uses

Fuel type

### Post-Army Uses

Leased to Solano Machinery Co. (also known as SUBA) 1968 to present for manufacture of wood and plastic products (ref 587).

### Flooring

Unknown

### Disposal Information

None Listed

### Activities (inside/outside)

Unknown

### Records Research Report Addenda Data

Dynamometer Shop vacate date of 1962 (ref 713).

### Records Research Report Comments

Facility beneficially used. Presumably, general carpentry operations were conducted in this facility.

## ENVIRONMENTAL SUMMARY

### Furthest Stage of Environmental Investigation

NONE

## COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

## 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.									

#### Furthest Stage of Environmental Investigation

NONE

## 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.

### RECOMMENDATIONS

Additional investigation is recommended to determine the presence or absence of fuels, solvents and oils in groundwater downgradient of the building for a potential release from former maintenance activities.

PA Summary

DoD Site #

TO127

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
Current Land Use	Industrial-Waterfront	
	Site Area (SqFt)	1440

OPERATIONAL HISTORY

DoD Use Type

Industrial/Manufacturing Shops

DoD Uses

Storehouse/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

In April 1952, a heater was installed for the purpose of keeping the building dry (ref 25). Historical maps identify this building as a storehouse. Structure appears on a 1958 map (ref 643).

Records Research Report Comments

Structure removed by DoD. TO127 was located on Bottle Hill. This facility may have been used in conjunction with TO131.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

NONE

COMMENTS

Based on the timeframe when the heater was installed (1950s), it was likely fueled by natural gas. There are no records indicating any potential environmental concerns related to DoD activities at this site.

RECOMMENDATIONS

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

## 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
Current Land Use	Industrial-Waterfront	
	Site Area (SqFt)	4480

### 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

## 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 # 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

	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

NONE

### 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.

### RECOMMENDATIONS

Additional investigation is recommended for this building to determine the presence or absence of solvents in groundwater downgradient of the building for a potential release from former cleaning and degreasing activities.

PA Summary

DoD Site #

TO132

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

Storehouses and Warehouses

DoD Uses

Storage - salvage

Secondary DoD Uses

Storage

Post-Army Uses

None Listed

Flooring

Unknown

Disposal Information

None Listed

Activities (inside/outside)

Unknown

Records Research Report Addenda Data

Structure appears on a 1958 map (ref 643).

Records Research Report Comments

Records Research does not mention this building.

ENVIRONMENTAL SUMMARY

Furthest Stage of Environmental Investigation

NONE

COMMENTS

There are no records indicating any potential environmental concerns related to DoD activities at this site.

RECOMMENDATIONS

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