

## ER Site Inspections - 4th Quarter 2008

### St. Juliens Creek Annex, Chesapeake, Virginia

PREPARED FOR: Walt Bell/NAVFAC Mid-Atlantic  
Tim Reisch/NAVFAC Mid-Atlantic

INSPECTIONS CONDUCTED BY: Adrienne Jones/CH2M HILL  
Adam Forshey/CH2M HILL

DATE: January 2, 2008

#### Introduction

This technical memorandum summarizes the results of the inspections conducted at the active Environmental Restoration (ER) sites at St. Juliens Creek Annex (SJCA) on December 22, 2008.

The active Installation Restoration (IR) sites consist of:

- Site 2 - Waste Disposal Area B
- Site 5 - Burning Grounds
- Site 21 - Industrial Area

The active Munitions Response (MR) site is UXO 1 - Wharf Area Sediments.

The following sections summarize the results of the inspections, identify the potential concerns observed, and provide recommendations for resolution by site. The site-specific inspection checklists are included as an attachment.

#### IR Site 2 - Waste Disposal Area B

At the time of the inspection, there were no signs of recent intrusive activities. Approximately 56 drums of investigation-derived waste (IDW) were observed on the site. The drums contain soil and aqueous IDW generated by Geosyntec during well installation at Site 21 for the Environmental Security Technology Certification Program (ESTCP) project. The drums are staged in secondary containment and properly labeled. One drum was observed to have had a lid that was not properly secured to the drum. One secondary containment cell is empty and needs to be removed.

Concrete and wood debris, also observed during previous inspections, remain in the wooded areas of the site. Additionally, miscellaneous debris, including a couch, a box, wood, and bottles, was observed on the eastern edge of the site near the IDW staging area. The 5-gallon bucket of bentonite pellets and two boxes of well screens previously identified at the site were not observed in the area. These items have since been removed.

All of the Site 2 monitoring wells, including casings, bollards, and locks, were in good condition, with the exception of monitoring well SJS02-MW12S. The flanges for the flush-mount well casing of SJS02-MW12S are damaged, prohibiting bolts from functioning properly, and replacement is recommended during future site activities. The signs indicating the site boundary were in good condition; however, they need to be updated with the correct contact phone number.

### **IR Site 5 – Burning Grounds**

At the time of the inspection, there was evidence of recent intrusive activities within the site. These activities are associated with the ongoing removal action. Erosion and sediment controls are in place and functioning for the disturbed areas. The Silt fence around the waste/burnt soil area is falling down and should be repaired prior to initiation of land-disturbing activities. No dumping of chemicals or IDW storage was observed within the site or in the vicinity.

Site 5 monitoring wells, including casings, bollards, and locks, were in good condition. Monitoring wells SJS05-MW01S and SJS05-MW01D were not inspected, as they fall within a restricted access area due to the munitions and explosives of concern (MEC) encountered in January 2008. The signs indicating the site boundary were in good condition, with the exception of a sign on the eastern boundary of the site that was removed during the removal action. The phone number on the signs needs to be updated with the correct contact phone number.

### **IR Site 21 – Industrial Area**

At the time of the inspection, evidence of intrusive activities was observed within the site boundary. Two open excavations, also noted during previous site inspections, were present in the vicinity of the former location of Building 201. The northern excavation (approximately 12' x 8' x 5'), noted during the first IR site inspections conducted during the second quarter 2005, and southern excavation (approximately 4' x 4' x 8'), first noted during the first quarter 2006 inspection, appeared to be in similar condition as during the previous inspection. Both excavations contained vegetation and standing water. Facility Operations personnel have indicated that the excavations are a result of ongoing storm sewer line repairs and will be backfilled when repairs are complete. The extent of the northern excavation will not change, but the southern excavation will be extended approximately 20 feet west into the parking lot towards Building 1556 to repair the drop inlet and connected piping. The excavations are located in an area of potential groundwater contamination. The existing groundwater and storm water analytical data, and a comparison of the groundwater data to non-hazardous disposal criteria were provided to the NAVFAC Mid-Atlantic Remedial Project Manager (RPM). The RPM will coordinate with Facilities Operations as necessary through the remaining repair activities.

A 55-gallon steel drum was observed in the southeast corner of the site near Building 68. The drum was in poor condition, with holes on the top and sides, and the bung hole on the drum was open. The drum was labeled "Dyed Kerosene 216". The drum was not in secondary containment and staining on the asphalt around the drum was observed. Facility Operations personnel was contacted to inspect and have the drum properly labeled and/or disposed of and will notify the RPM of the drum's contents.

Miscellaneous construction and wood debris were observed throughout the site, but are expected due to the industrial use of the site. All of the Site 21 monitoring wells were in good condition. The signs indicating the site boundary were in good condition; however, they need to be updated with the current contact phone number.

### **MR Site UXO 1 – Wharf Area Sediments**

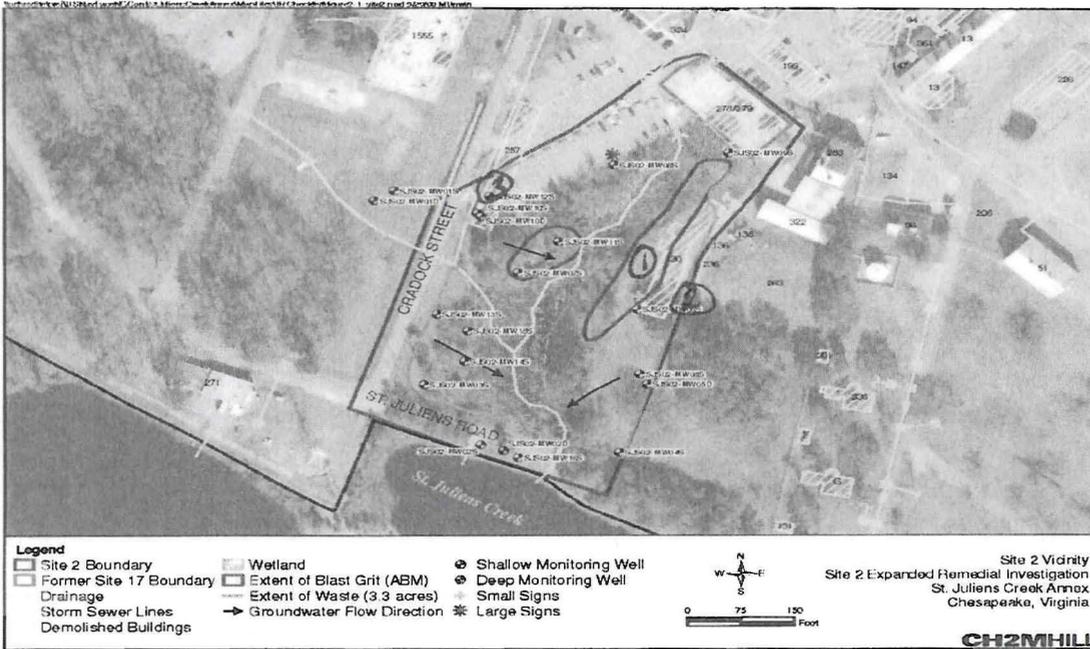
No intrusive activities, IDW, or debris were observed at the site during the inspection. The signs indicating the site boundary were in good condition; however, they need to be updated with the current contact phone number and to reflect the new site information (i.e., MR Site UXO 1 instead of IR Site 20). When updating the signs, placement of signs in the vicinity of the southern wharf area should be considered.

**Site 2 - Waste Disposal Area B**

**St. Juliens Creek Annex, Chesapeake, Virginia**

Description: Site 2 is an unlined waste disposal area, covering approximately 5.7 acres, located at the corner of St. Juliens Drive and Cradock Street in the southwestern portion of the Annex. The waste disposal area began operating in 1921. Initially, refuse was burned onsite and was used to fill an adjacent swampy area. In 1942, an incinerator was installed and replaced the open burning practices. The waste disposal area was closed sometime after 1947. Garbage, acids, and waste ordnance were reportedly disposed of at Site 2. Site 2 also contains abrasive blast media (ABM) from ship overhaul and repair operations. In 1989, the site was used for storage of heavy equipment and machinery, including storage of tools, tires, and machinery in sheds and trailers. In the north, Site 2 encompasses the former Site 17, which consisted of a concrete storage pad located just outside Building 279. The building was used as a fork lift maintenance shop. Buildings 278/279 were demolished in 2003 and the concrete slab remains in-place.

Site 2 is currently a swampy area covered with brush, trees, and grass. A water body directly connected to St. Juliens Creek is located in the center of Site 2. This inlet from the creek is tidally influenced and drains surface water from adjoining land, including Site 2, into the creek. Construction debris (concrete and brick), as well as ABM, are visible at the site. There are signs posted around the perimeter of the site.



**Comments: (Provide related question number for each comment)**

① IDW - APPROX. 56 DRUMS OF IDW AND SEVERAL EMPTY DRUMS OBSERVED. 1st SECONDARY CONTAINMENT WITH PROPER LABELS. NOTED AT LEAST ONE DRUM WITH LED NOT PROPERLY SECURED. - QUESTION 2

② DEBRIS OBSERVED (COUCH, WOOD, BOTTLES, ETC) - QUESTION 3

③ BOLTS MESSING FROM NW 125 - QUESTION 4

**General Questionnaire**

- 1 Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose. 

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
- 2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section above, and notify activity coordinator. Indicate if IDW is properly labeled, per example below 

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
- Investigative Derived Waste  
Purge water from Site 2  
January 28, 2007  
Do not handle, analysis pending  
Contact Tim Reisch, NAVFAC MID LANT, (757) 444-6890
- 3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator. 

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Site Specific Questionnaire**

- 4 Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s) 

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
- 5 Are the signs, in good condition (letters visible, and standing upright)? If no, describe condition of the signs, mark location(s) on map, and notify activity coordinator. 

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

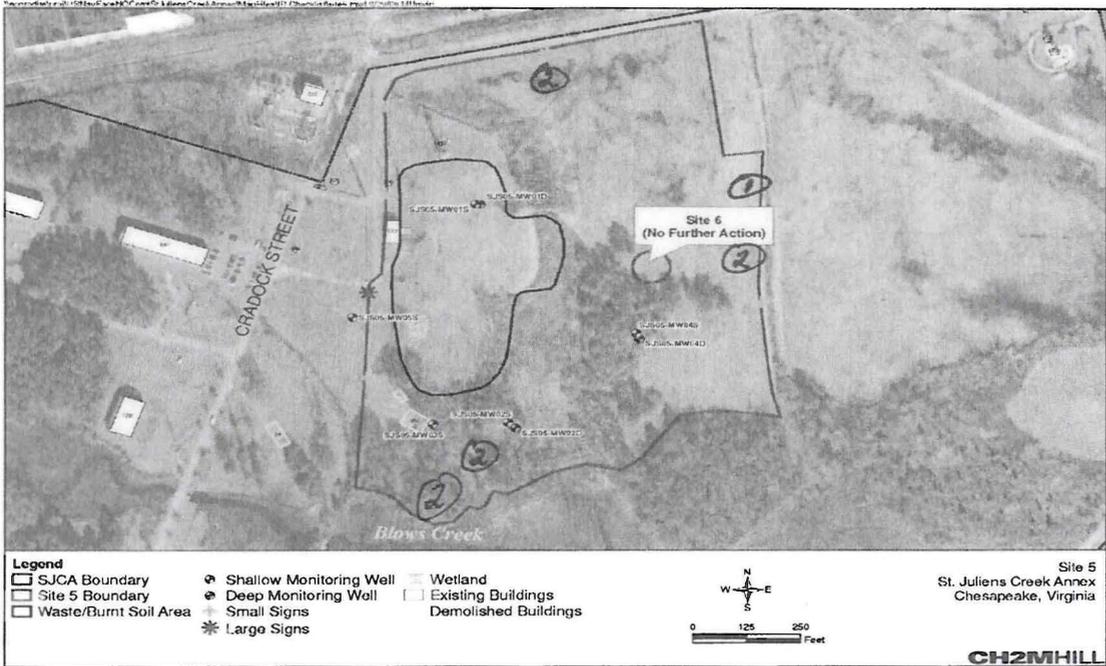
Inspection performed by: (Print and sign) ADAM FORSHEY *Adam Forshey*  
Date: 12/22/08

**Site 5 - Burning Grounds**

**St. Juliens Creek Annex, Chesapeake, Virginia**

Description: Site 5 is the former Burning Grounds consisting of approximately 23 acres adjacent to Cradock Street in the northern portion of the Annex. The site is located on fill material that reportedly originated from the Southern Branch of the Elizabeth River. The exact start and closure dates of the Burning Grounds are unknown, although it reportedly operated between the 1930s and 1970s, during which time waste ordnance materials were disposed by open burning. In 1977, the ground surface at Site 5 was burned with straw, diced, and burned again in an effort to remediate the soil. Wastes disposed include ordnance materials such as black powder (mixture of charcoal, nitrate, and sulfur), smokeless powder (nitrocellulose), Explosive D (ammonium picrate), Composition A-3 (contains RDX and wax), tetryl, trinitrotoluene (TNT), and fuzes. Other wastes consisted of carbon tetrachloride, trichloroethene, paint sludge, pesticides, and various types of refuse. The amount of ordnance disposed of varied from year to year and there is insufficient information to calculate waste volume.

The site currently consists of an open field with the central portion overgrown with phragmites. A significant portion of the southwest area of the site is covered with a layer of gravel. Surface water at Site 5 drains either naturally or through unlined shallow man-made drainage ditches to tidally influenced Blows Creek, which eventually meets with the Southern Branch of the Elizabeth River. There are signs posted around the perimeter of the site.



Comments: (Provide related question number for each comment)

- ① SIGNS MESSING - ON GROUND - QUESTION 5
- ② SIGNS OF REMOVAL ACTION - QUESTION 1

**General Questionnaire**

- 1 Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose. 

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
- 2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below 

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
- Investigative Derived Waste  
Purge water from Site 5  
January 28, 2007  
Do not handle, analysis pending  
Contact Tim Reisch, NAVFAC MID LANT, (757) 444-6890
- 3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator 

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Site Specific Questionnaire**

- 4 Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s) 

Yes	No
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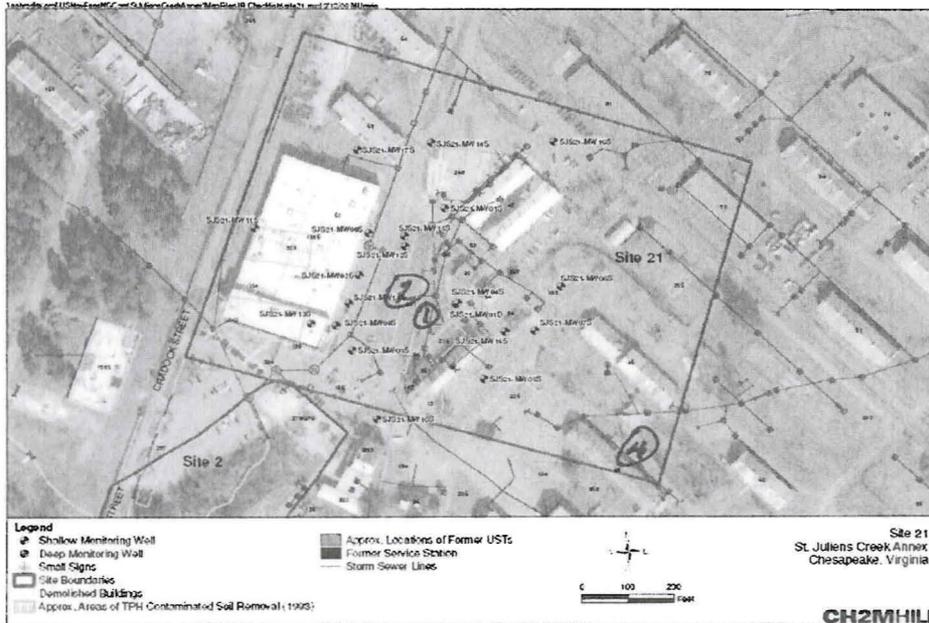
Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Inspection performed by: (Print and sign) Adam Forsney ADAM FORSNEY  
Date: 12/22/08

**Site 21 - Industrial Area**  
**St. Juliens Creek Annex, Chesapeake, Virginia**

Description: Site 21 is located in a former industrial area in the central portion of the annex. Buildings at Site 21 were historically used as machine, vehicle, and locomotive maintenance shops; electrical shops; and munitions loading facilities. Outdoor areas at Site 21 were used for equipment and chemical storage. Several of these buildings and/or their surrounding areas were designated as former IR sites. Additionally, a fuel service station was previously located just south of Building 187. The existing buildings and the Site 21 area are currently used for storage and maintenance activities. Building 1556 was constructed in 1992 and is currently used as the MARMC warehouse. Many of the older buildings at the site have been demolished. A storm sewer system runs through the site and drains to a downstream inlet (IR Site 2) to St. Juliens Creek.

The site currently consists of an industrial area, primarily asphalt-paved. Elevated concentrations of TCE are present in shallow groundwater and storm water in the Site 21 vicinity. There are signs posted around the perimeter of the unpaved areas of the site.



Comments: (Provide related excavation number for each comment)

- ① GEN EXCAVATION - UTILITY REPAIR - QUESTION!
- ② ESTCP PROJECT IN PROGRESS - QUESTION!
- ③ MATERIAL & DEBRIS STAGED THROUGHOUT THE SITE - ACTIVE INDUSTRIAL AREA
- ④ 1-55 GALLON DRUM (OLD) IDENTIFIED. NOT PROPERLY LABELED. HOLES IN TOP AND SIDES. SOME LIQUID INSIDE. LABELED "DYED KEROSENE Z16" NOT IN SECONDARY CONT.

**General Questionnaire**

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- 2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section above, and notify activity coordinator. Indicate if IDW is properly labeled, per example below:  
 Investigative Derived Waste  
 Purge water from Site 21  
 January 28, 2007  
 Do not handle, analysis pending  
 Contact Tim Reisch, NAVFAC MID LANT, (757) 444-6890
- 3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator.

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Site Specific Questionnaire**

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<input checked="" type="checkbox"/>	<input type="checkbox"/>
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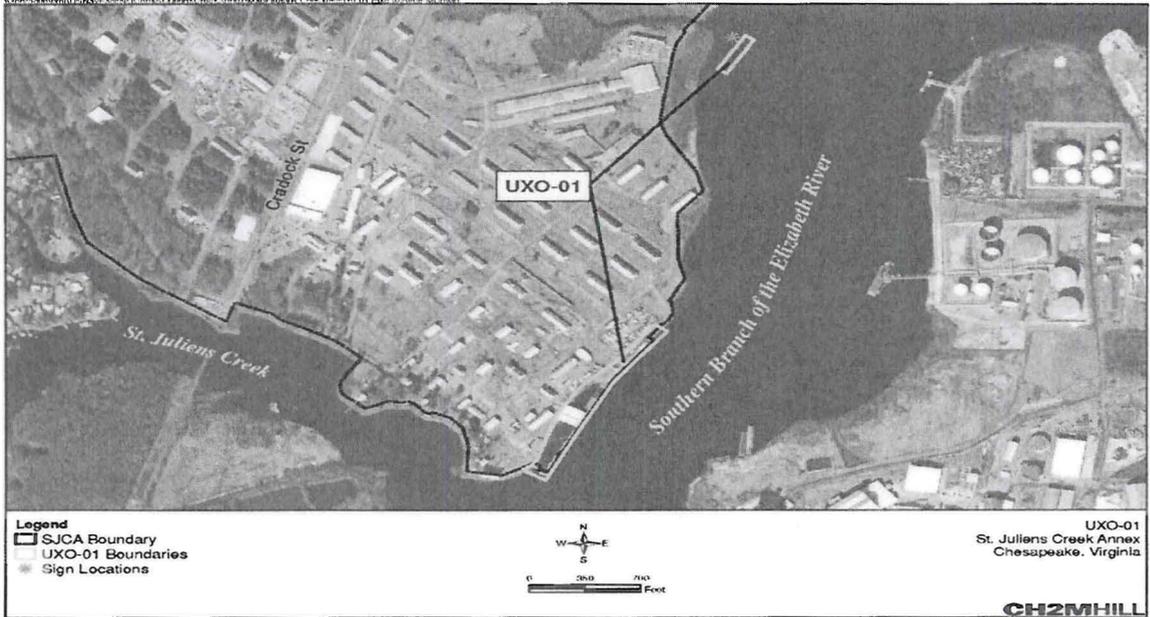
<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Inspection performed by: (Print and sign) ADAM FORSHEY Adam Forshey  
 Date: 12/22/08

**UXO 1 -**

**St. Juliens Creek Annex, Chesapeake, Virginia**

UXO-0001 is the current and former wharf areas and piers along the shoreline of the Southern Branch of the Elizabeth River, comprising approximately 1,520 linear feet (ft). One wharf area, constructed in 1917 for loading Mark VI mines, was located in the northeast portion of SJCA adjacent to Buildings M-5 and 190. This wharf area is no longer present, with the exception of remaining pilings. During World War II, a second wharf area was constructed in the southeast portion of the SJCA to support the increased production for the war. Ordnance loading activities continued until the early 1970s, when production declined commensurate with the disengagement policy and the reduced operations in southeast Asia. The wharf was damaged when two ships struck the wharf in 1975; however, it is still functional. The northern wharf area was previously identified as Site 20 in the IRP.



Comments: (Provide related question number for each comment)

SIGNS VISIBLE, NAME & CONTACT NUMBER STILL TO BE UPDATED, ALSO CONSIDER POSTING ON SOUTH PIER.

**General Questionnaire**

1 Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose.

Yes	No
X	

2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section above, and notify activity coordinator. Indicate if IDW is properly labeled, per example below:

X	
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Investigative Derived Waste  
Purge water from UXO 1  
January 28, 2007  
Do not handle, analysis pending  
Contact Tim Reisch, NAVFAC MID LANT. (757) 444-6880

3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator.

X	
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**Site Specific Questionnaire**

4 Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s).

N	4
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5 Are the signs, in good condition (letters visible, and standing upright)? If no, describe condition of the signs, mark location(s) on map, and notify activity coordinator.

X	
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Inspection performed by: (Print and sign)

Date: 12/22/08

ADAM FORSNEY *Adam Forsney*

CH2MHILL