



# DEPARTMENT OF THE NAVY

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NAVAL FACILITIES ENGINEERING COMMAND  
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NORFOLK, VA 23511-2899

1/20/00-00453

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IN REPLY REFER TO:

5090

18225:TAR:cag

JAN 20 2000

U.S. Environmental Protection Agency  
Region III  
Federal Facilities Branch  
Attn: Mr. Robert Thomson (3HS50)  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

Re: St. Juliens Creek Annex November 30, 1999  
Site Visit and Work in Progress Meeting Minutes

Dear Mr. Thomson:

Please find enclosed the minutes of the site tour and work in progress meeting for the St. Juliens Creek Annex held on November 30, 1999. The information contained in these minutes will guide the scope of work for the planned Site Screening Assessment (SSA) investigation; specifically, the no further action (NFA) determination at 9 of the 12 areas of concern (AOCs) we identified during our June 1999 review of historical photography of the facility.

As you were unable attend this meeting, the enclosed site information is detailed to provide the rationale of the proposed NFA determination for these 9 "EPIC AOC" locations. The regulators in attendance, Ms. Sharon Wilcox (VDEQ), Mr. Simeon Hahn (EPA BTAG, NOAA), and Mr. John McCloskey (EPA BTAG, USFWS) all concurred with these NFA determinations and the other recommendations contained in these minutes.

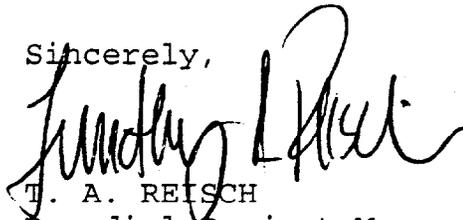
The Navy is preparing the workplan for the SSA fieldwork which will include soil sampling and a geophysical survey at the remaining 3 EPIC AOCs. To ensure this field effort is comprehensive to meet the objectives of the SSA, as stated in the minutes, your review of these minutes is requested by February 4, 2000. Following receipt of your comments, the SSA investigation workplan will be submitted for your review in March 2000. To streamline the review process, the SSA workplan will reference and use the checklists contained in the *Draft Master Project Plans, Naval Station Norfolk, St. Juliens Creek Annex, Chesapeake, Virginia* previously submitted for your review.

Quality Performance ... Quality Results

Re: St. Juliens Creek Annex November 30, 1999  
Site Visit and Work in Progress Meeting Minutes

If you require additional information, please contact me at  
(757) 322-4758.

Sincerely,



T. A. REISCH  
Remedial Project Manager  
Installation Restoration Section  
(North)  
Environmental Programs Branch  
Environmental Division  
By direction of the Commander

Enclosures

Copy to:

CNRMA Yorktown (Mr. Jeff Harlow, Regional Environmental  
Group)

VDEQ (Ms. Sharon Wilcox)

USFWS (Mr. John McCloskey)

USEPA (Messrs. Simeon Hahn, Todd Richardson)

Administrative Record File (St. Juliens Creek Annex,  
Chesapeake, VA)

## November 30th, 1999 Meeting Minutes

ATTENDEES: Simeon Hahn  
Sharon Wilcox  
Steve Petron  
Dave Schroeder  
Tim Reisch  
John Tomik

Chris Wallace  
Bruce Pluta  
Lynne France  
Jeff Harlow  
John McCloskey

FROM: Tim Reisch

DATE: January 18, 2000

The St. Juliens Creek Annex (SJCA) site visit and work in progress meeting convened at approximately 8:20 in the NNSY/TCC Fire Training Facility located at SJCA. Tim welcomed the group and discussed the agenda and the purpose of the site tour. Tim explained that the EPA will propose SJCA to the NPL in January 2000. To assist in the preparation of the Federal Facilities Agreement after the final listing and prioritize the investigation/clean-up of the SJCA sites, the Navy plans to conduct a Site Screening Assessment (SSA) to categorize the sites currently identified as "Installation Restoration (IR) Sites" and add/investigate any new sites to the clean-up program.

Several basewide environmental assessments have been conducted at St. Juliens Creek Annex to identify site for investigation and remediation. These investigations include the Navy's Initial Assessment Study (IAS) and the EPA's RCRA Facility Assessment (RFA). The RFA identified a total of 46 potential sites [solid waste management units (SWMUs)/areas of concern (AOCs)]. Of these 46 areas, the RFA recommended some kind of additional investigation at 35 of these sites; due to relative proximity to each other, several of these potential sites/areas of concern (AOCs) were combined into 20 sites for additional investigation. The remainder of the RFA sites were identified as "No Further Action" for various reasons. The Navy later identified another site bringing the total number of SJCA sites to 21. During the construction of the SIMA facility in the early 1990s, 4 sites (Sites 9, 12, 13, and 14) were removed/remediated. In 1996, the Navy conducted a relative risk ranking (RRR) investigation that included sampling at the remaining 17 SJCA sites. The goal of the sampling effort was to gather data to assess and prioritize the cleanup of the facility's sites and program a cleanup schedule and funding for these sites in the IR program. Therefore, all 21 SJCA sites are considered "IR sites" even though the RFA did not recommend a full RCRA Facility Investigation (RFI) at the majority of the sites. To date, the RRR data has not been compared to or screened against regulatory criteria.

The Navy proposes to screen and evaluate the RRR data against regulatory criteria, and make site-specific recommendations in the planned SSA investigation for "IR sites" 1, 7, 8, 10, 11, 18, 19, 20, and 21. The sites with the RI underway (Sites 2, 3, 4, 5, and 6), the sites proposed for a SI (Sites 15/17 and 16) in FY 2000, and those sites already remediated/removed (Sites 9, 12, 13, and 14) will not be addressed in the SSA. Tim explained that the purpose of the SSA is to determine which of these sites warrant additional investigation in the IR program, and for those sites the SSA is really a site inspection (SI). In addition, Tim stated that 12 potential AOCs were identified for investigation during the joint EPA, DEQ and Navy review of historical aerial photography (EPIC Study) of the facility in June 1999. The purpose of the site visit was to look at the "EPIC AOC" locations and review current and past (based on EPIC study photos) conditions to determine if sampling is

warranted at any of these AOCs. Any sampling at these AOCs will be conducted as part of the SSA field investigation; all the "EPIC AOCs" will be addressed in the SSA report. In addition, the group reviewed site conditions and the historical photography of the IR sites included in the SSA and planned SIs.

The attached information package contains summary sheets of the sites visited and discussed during the site tour. The Site/EPIC AOC summary sheets are ordered as these locations were visited and discussed during the site tour. The information package also contains figures of SJCA illustrating the location of the "IR Sites", the "EPIC AOCs", and the route of the site tour. To summarize the status of the 21 IR sites and the 12 EPIC AOCs, the following table is provided.

Site Name and Number	Investigation	Status/Comment
Site 1 - Landfill A	SSA	Planned (WP-March 2000)
Site 2 - Landfill B	RI/FS/BLRA	In Progress
Site 3 - Landfill C	RI/FS/BLRA	In Progress
Site 4 - Landfill D	RI/FS/BLRA	In Progress
Site 5 - Burning Grounds	RI/FS/BLRA	In Progress
Site 6 - Small Items Pit (in study area of Site 5)	RI/FS/BLRA	In Progress
Site 7 - Old Storage Yard #1	SSA	Planned (WP- March 2000)
Site 8 - Cross and Mine	SSA	Planned (WP- March 2000)
Site 9 - Pest. Control Bldg. 249	None	NFA - remediated/removed
Site 10 - Waste Disposal at RR Tracks	SSA	Planned (WP- March 2000)
Site 11 - Waste Disposal at Building 53	SSA	Planned (WP-April/May 2000)
Site 12 - Sand Blast Area Bldg. 323	None	NFA - remediated/removed
Site 13 - Waste Generation Area	None	NFA - remediated/removed
Site 14 - Washrack Bldg. 266	None	NFA - remediated/removed
Site 15 - Fire Training Area	SI (with Site 17)	Planned (WP-April/May 2000)
Site 16 - DRMO Storage/Salvage Yard	SI	Planned (WP-April/May 2000)
Site 17 - Storage Pad at Building 279	SI (with Site 15)	Planned (WP- March 2000)
Site 18 - Blasting Grid at Building 47	SSA	Planned (WP- March 2000)
Site 19 - Wharf Area, Building M-5	SSA	Planned (WP- March 2000)
Site 20 - Wharf Area Sediments	SSA	Planned (WP- March 2000)
Site 21 - Soil Staining at Building 187	SSA	Planned (WP- March 2000)
EPIC AOC #1	SSA	Sampling and geophysics
EPIC AOC #2	SSA	Potential NFA
EPIC AOC #3	SSA	Proposed NFA
EPIC AOC #4	SSA	Proposed NFA
EPIC AOC #5	SSA	Proposed NFA
EPIC AOC #6	SSA	Proposed NFA
EPIC AOC #7	SSA	Proposed NFA
EPIC AOC #8	SSA	Sampling and geophysics
EPIC AOC #9	SSA	Proposed NFA
EPIC AOC #10	SSA	Proposed NFA
EPIC AOC #11	SSA	Proposed NFA
EPIC AOC #12	SSA	Sampling and geophysics

SSA = Site Screening Assessment  
 RI = Remedial investigation  
 BLRA = Human Health Risk Assessment; Ecological Risk Assessment

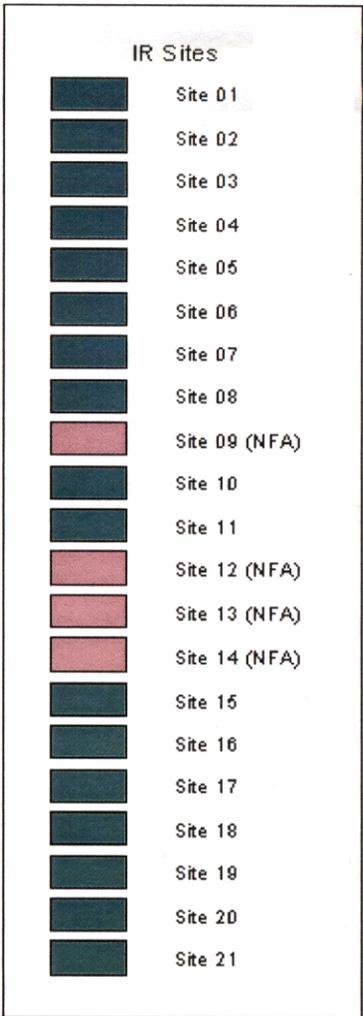
SI = Site Investigation  
 FS = Feasibility Study  
 WP = Work Plan (anticipated submittal)

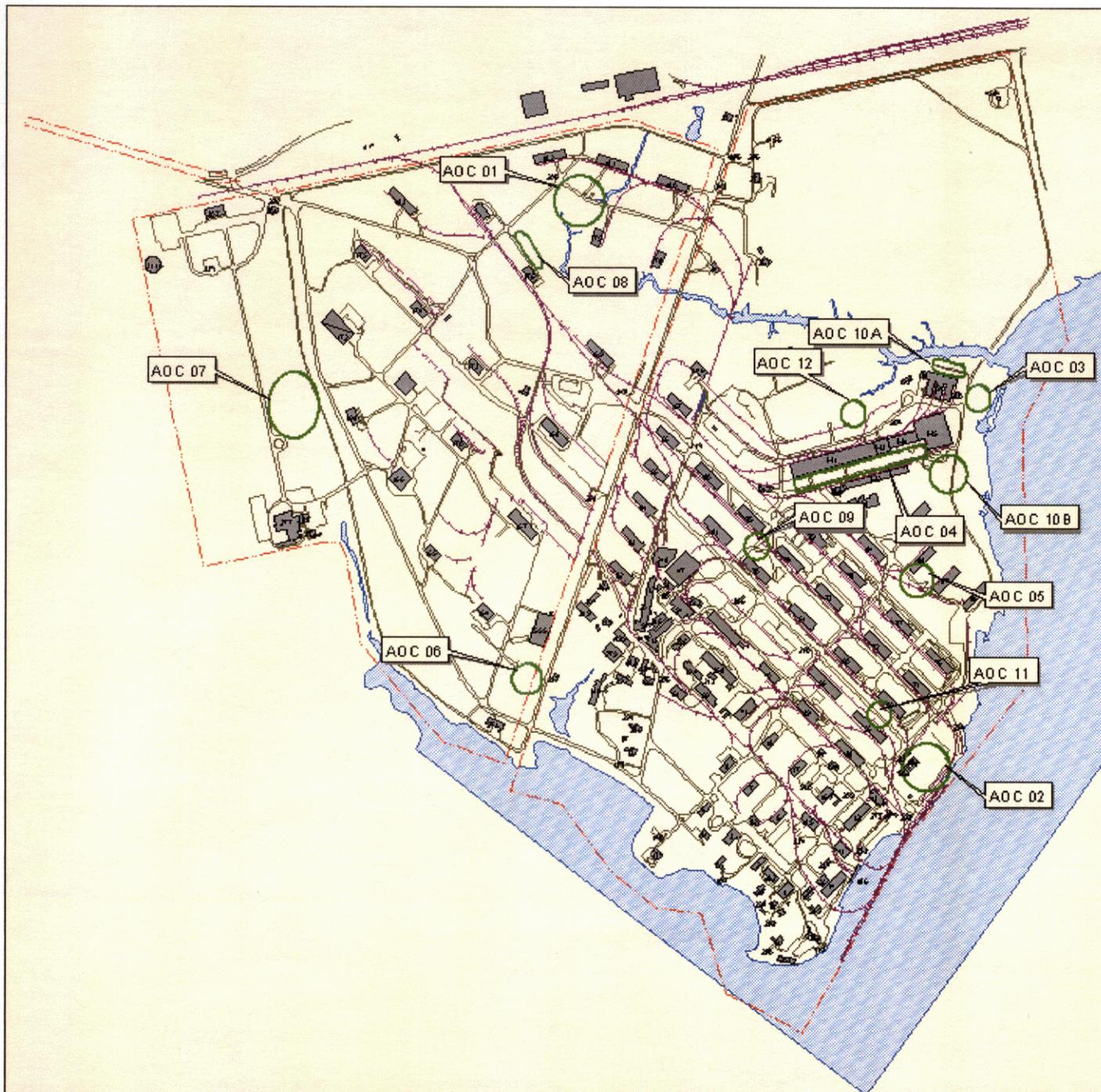
Following the site tour and lunch, the group briefly reviewed the sites visited during the site tour. At 3 of the 12 EPIC AOCs (AOCs 1, 8, and 12), the Navy will conduct soil sampling and geophysics. The results of this sampling and field effort will be addressed in the SSA along with recommended additional action for these locations. The remaining 9 AOCs are proposed for no further action (the Navy will provide additional information pertaining to AOC 2), the Navy will briefly address these areas in the SSA report. The group briefly discussed the IR sites and the general results of the RRR report. The discussion focused on Landfill A (Site 1), a small waste disposal area active approximately 75 years ago. The group concurred that the Navy will evaluate the EPA's HRS data for samples collected in the vicinity of Site 1 to determine if a few additional samples will be required to make an additional investigation required/no action determination.

The group then discussed the *Draft Technical Memorandum – Ecological Risk Assessment Approach, Sites 2, 3, 4, and 5, St. Juliens Creek Annex, Chesapeake, VA*. The document is intended to outline the ecological risk assessment process and be general in nature. It was noted that the screening ERA could have been accomplished using the data from the initial RI sampling event and that the nature and extent of contamination does not need to be fully defined in the screening level assessment. While the screening ERA should be conducted concurrent with the SI, the Navy felt that the very limited sampling would require the preliminary screen to be revised; therefore, the Navy opted not to conduct the screening ERA until the second round of RI data was available. The group discussed how the Navy would proceed in sampling away from sites. During the discussion, it was noted that the Navy and EPA agreed that sampling will be conducted away from sites, as required. The Navy will proceed with additional rounds of sampling to extend the areas impacted from a specific site as determined by the evaluation of previous site data. It was also noted that other sources of data for the Elizabeth River might be available; the Navy agreed to look into obtaining and reviewing these data.

With the major items regarding the technical memorandum discussed and resolved, the group decided to have a conference call to discuss any remaining issues in order to allow the presentation of the ERA Workshop developed by BTAG & LANTDIV. The workshop focused on the ERA process, the differences in guidance terminology, and how the Navy and EPA have agreed to conduct ERAs in Region III. This work shop was developed at the request of the Navy-Virginia Tier II Partnering Team to be given to all Navy and Marine Corps Tier I partnering teams in Virginia and Washington DC.

After the ERA workshop, the meeting was adjourned. It was agreed that good communication using e-mails, conference call, and periodic meetings between the Navy and BTAG will ensure that the ERA process is followed and any risk to ecological receptors is properly addressed.

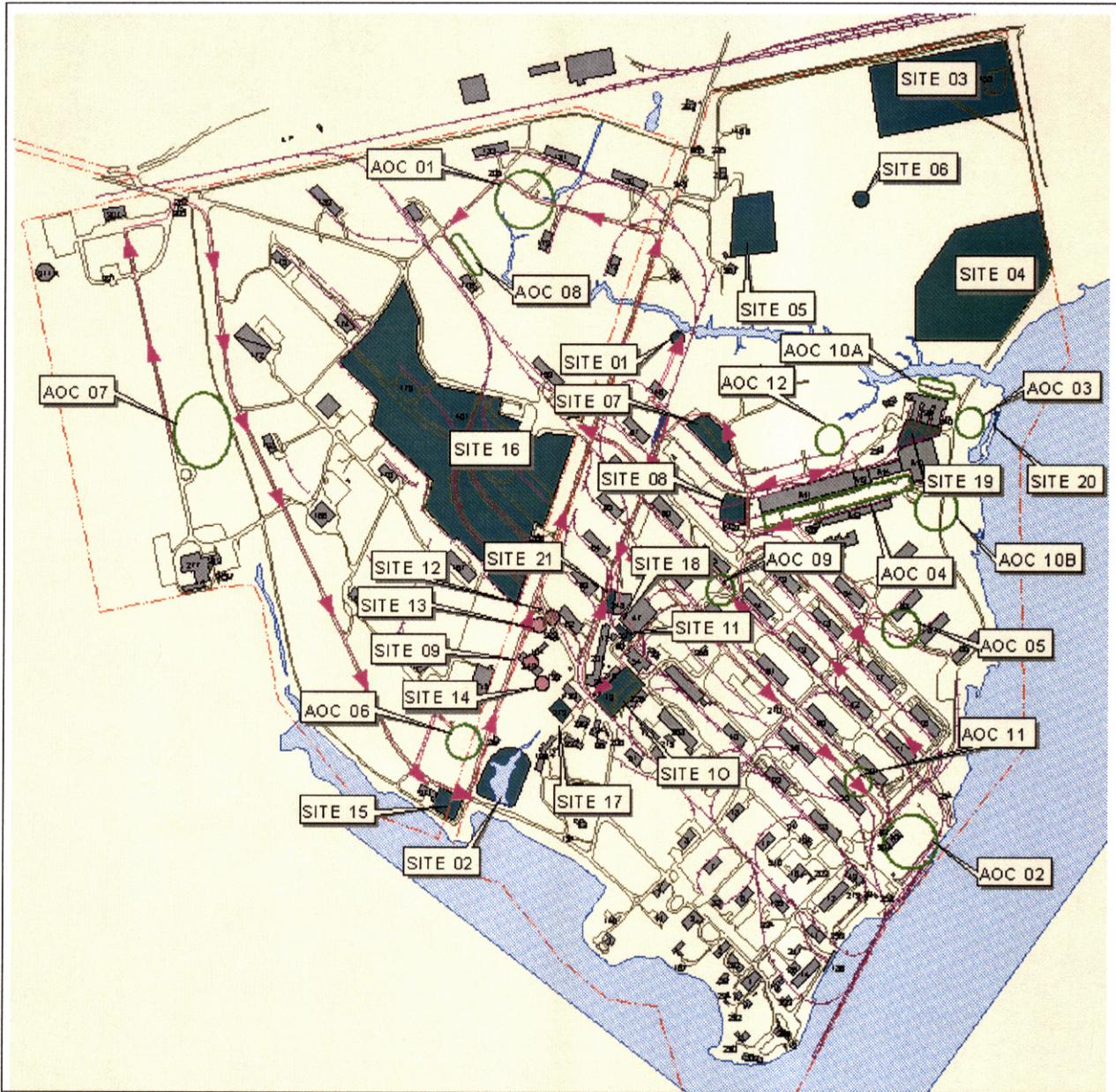




**EPIC AOCs**

 EPIC AOCs





IR Sites		Site 05	Site 10	Site 15	Site 20
	Site 01				
	Site 02				
	Site 03				
	Site 04				
	Site 05				
	Site 06				
	Site 07				
	Site 08				
	Site 09 (NFA)				
	Site 10				
	Site 11				
	Site 12 (NFA)				
	Site 13 (NFA)				
	Site 14 (NFA)				
	Site 15				
	Site 16				
	Site 17				
	Site 18				
	Site 19				
	Site 20				
	Site 21				
	EPIC AOCs				
	AOC Tour Route				



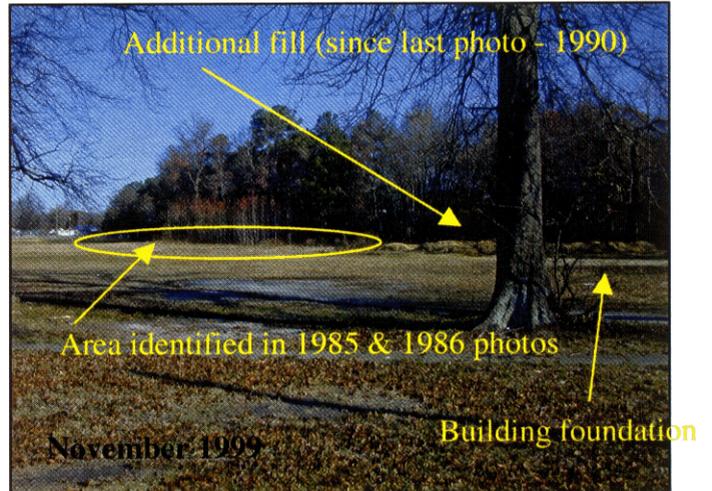
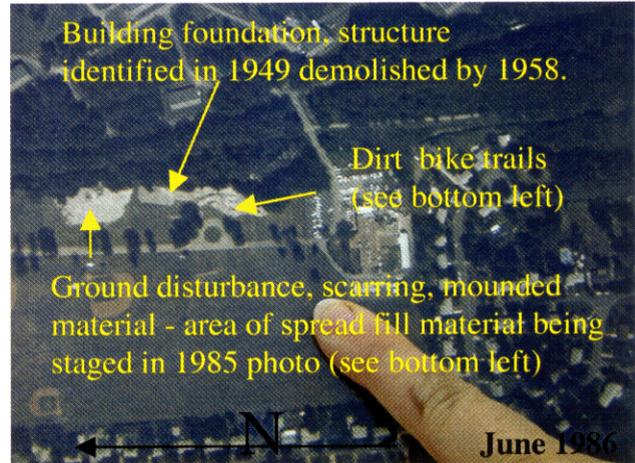
## EPIC - AOC #7

In City of Portsmouth outgrant area, south of ballfields and west of upper reaches of St. Juliens Creek

October 1974 - storage on building foundation area

February 1985 - rows of mounded material (dumped trucks loads of soil being staged to fill area)

June 1986 - ground disturbance, scarring, mounded material (spread fill material).



- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), the “ground-scarring” appears to be soil brought to fill the area. The AOC area has rough grading, a distinct drop in elevation along the east (creek) side, and is vegetated with grass and saplings of various varieties. Several background study sediment and surface water sampling points located in the upper reaches of St. Juliens Creek are near this AOC.
- **NFA is proposed - Navy will provide details of site identification and rationale for NFA determination in the SSA report.**

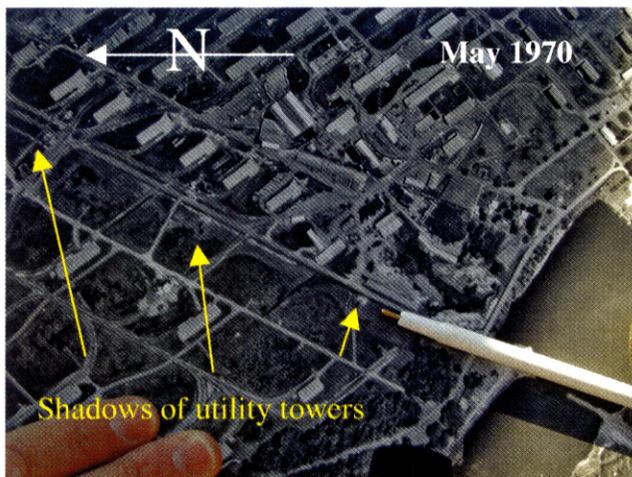
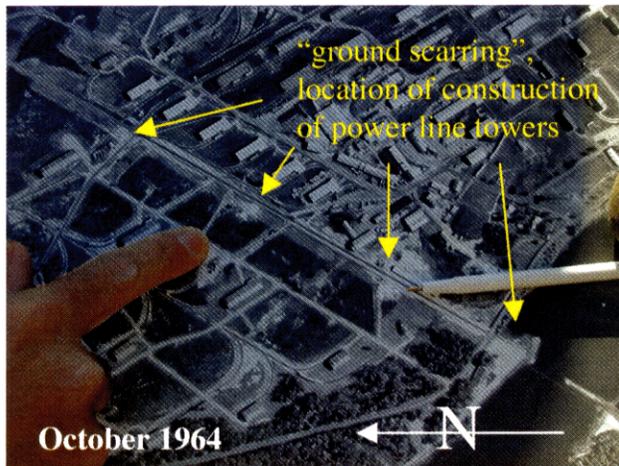
## EPIC - AOC #6

Located across and to the east of Landfill B (Site 2).

March 1963 - no activity at this location

October 1964 - identified ground scarring and possible waste disposal

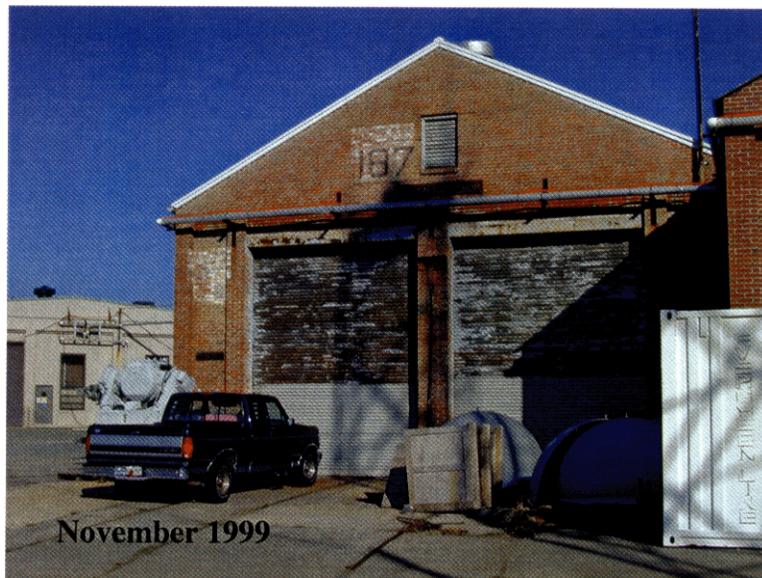
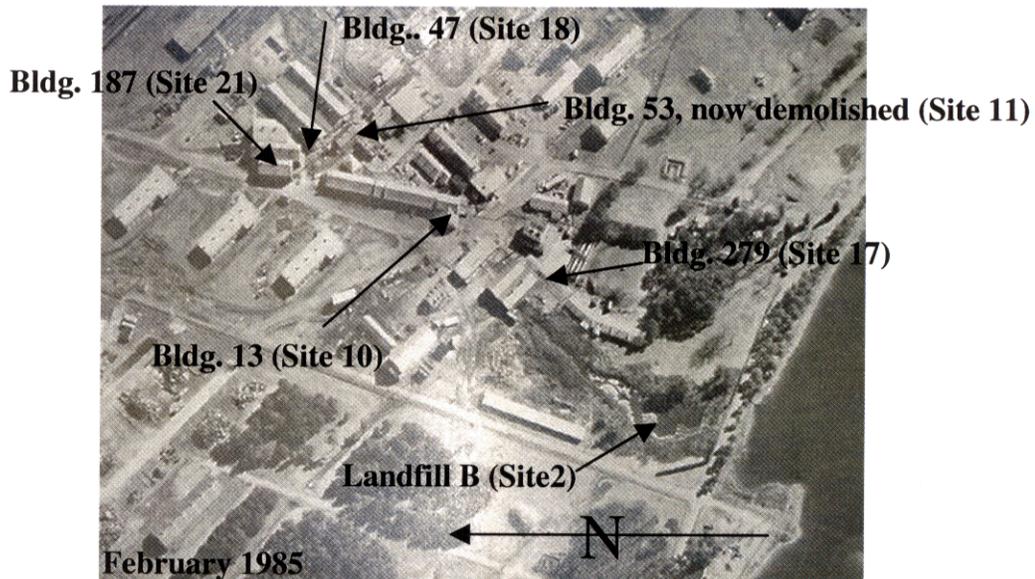
May 1970 and later - high voltage transmission towers located at areas of disturbance in 1964 photo.



- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), the "ground-scarring" was caused by the construction of high voltage transmission towers across the facility. The shadows of these towers appear in photos after the 1964 construction period.
- **NFA is proposed - Navy will provide details of site identification and rational for NFA determination in the SSA report.**

## SITE 21

Building 187 was a locomotive shed, used for locomotive maintenance. The IAS report stated that the area around the locomotive shed is saturated with oil.

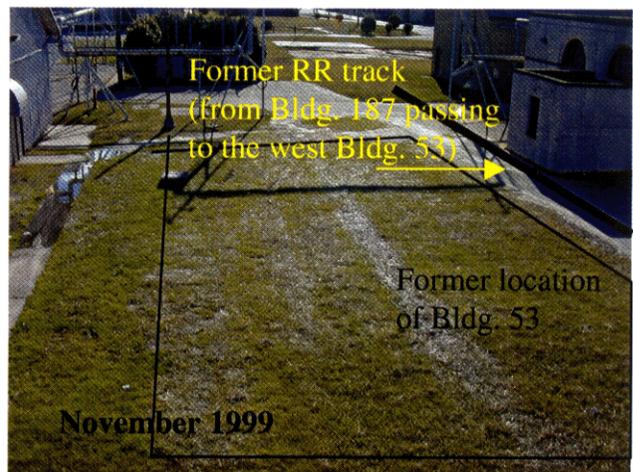
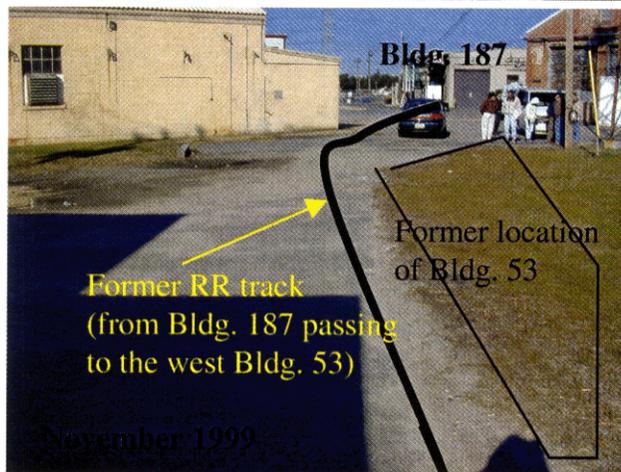
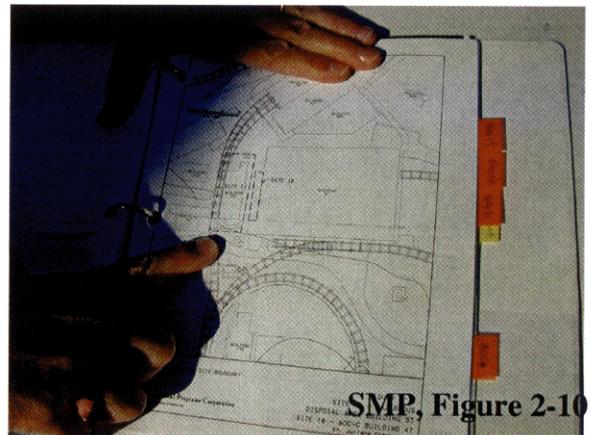
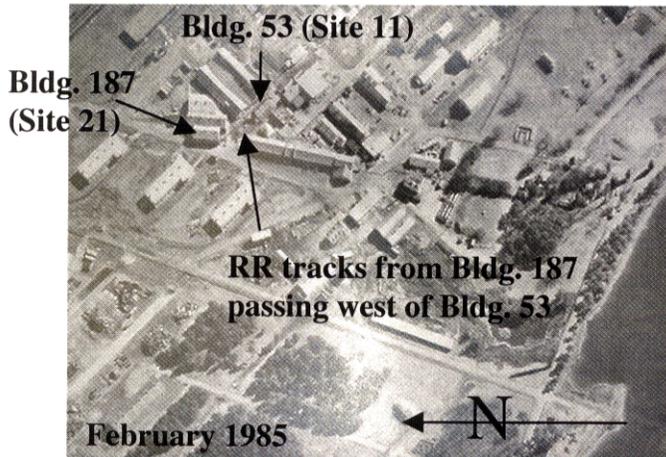


- Included for evaluation in SSA investigation which will group sites into categories based on additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- SSA report will provide documentation that no ecological receptors are located at this site (Step 1), and recommend NFA for ecological concerns. BTAG concurred with this proposal during the November 1999 site visit.

## SITE 11 (RFA - SWMU 15)

Disposal area in former RR track bed located southeast and adjacent to Building 53 (now demolished).

Building 53 was the facility electrical shop located in the industrial area east of Craddock Street. In the IAS it was stated that station electricians used 5 gallons per month of trichloroethylene. Most of the solvent evaporated, but the remainder was disposed on the railroad track bed adjacent to Building 53.

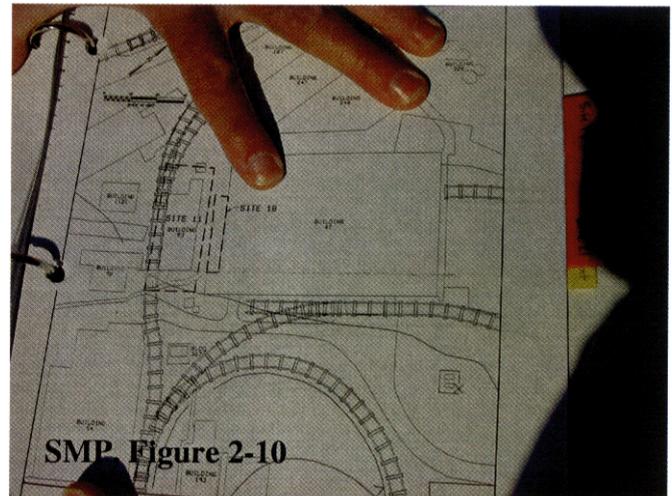
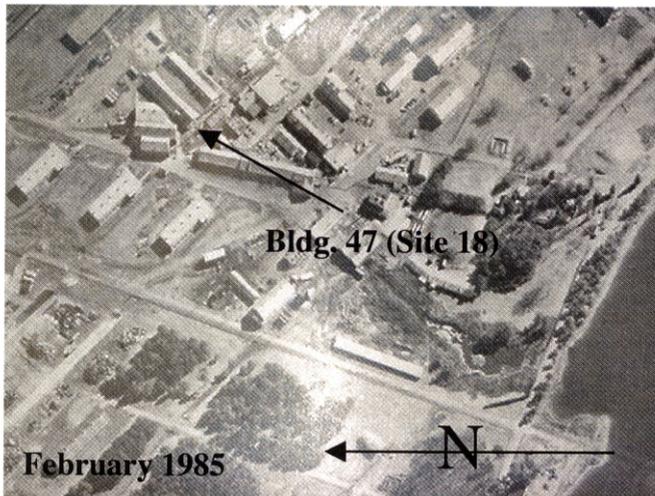


- Included for evaluation in SSA investigation which will group sites into categories based on additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- SSA report will provide documentation that minimal/no ecological receptors are located at this site (Step 1), and recommend NFA for ecological concerns. BTAG concurred with this proposal during the November 1999 site visit.

## SITE 18 (RFA - AOC B, AOC C)

Located on the south side of Building 47, next to former Building 53.

Site 18 is located adjacent to the south wall of Building 47. This site was first identified as an area of concern in the RFA at which time sand blasting grit was observed at this location. Although Building 47 housed two sand blasting booths, personnel working in that building reported that they did not use black blasting grit in their machines; therefore, the source of the grit is unknown.

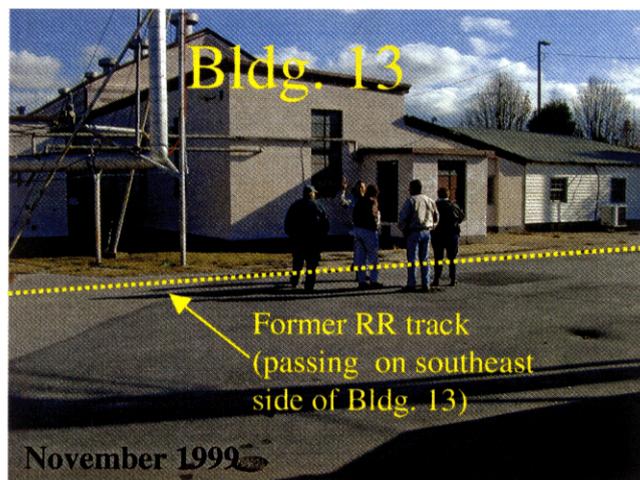
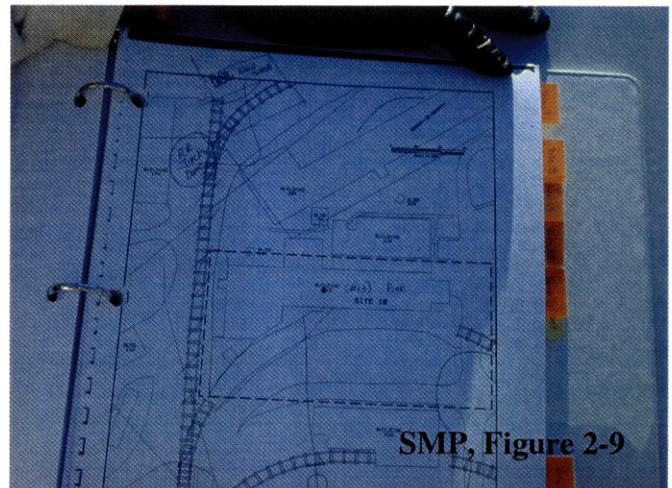
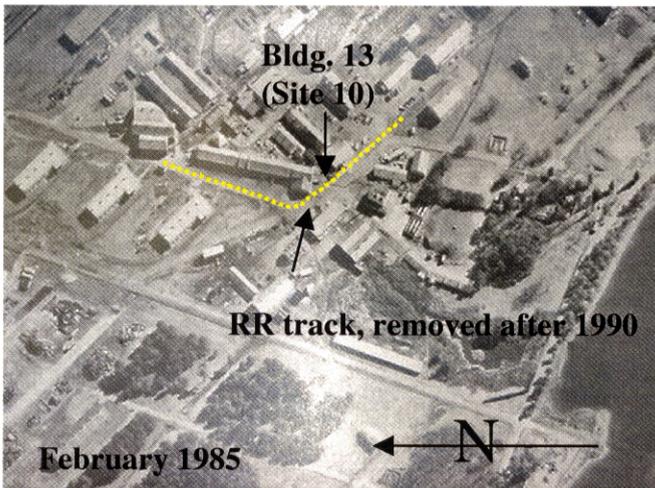


- Included for evaluation in SSA investigation which will group sites into categories based on additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- SSA report will provide documentation that minimal/no ecological receptors are located at this site (Step 1), and recommend NFA for ecological concerns. BTAG concurred with this proposal during the November 1999 site visit.

## SITE 10 (RFA - SWMU 14)

Adjacent to Building 13 (south side) along former RR track bed.

This site is located in the vicinity of Building 213. The site is the reported disposal location for wastes generated during hardware cleaning operations from prior to 1940 to the mid-1970s. It is reported that liquid wastes were poured on the railroad tracks, although during the RFA, no evidence of a release was observed.

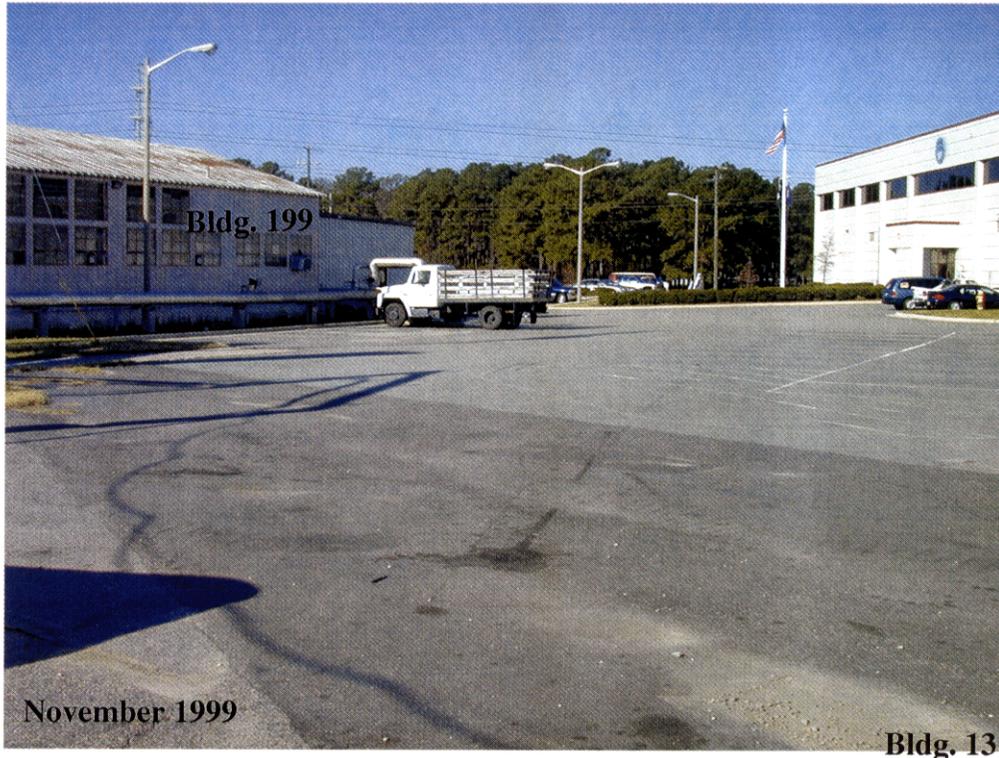


- Included for evaluation in SSA investigation which will group sites into categories based on additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- SSA report will provide documentation that minimal/no ecological receptors are located at this site (Step 1), and recommend NFA for ecological concerns. BTAG concurred with this proposal during the November 1999 site visit.

## **(RFA - SWMU 31) Swale beneath Building 13**

**Proposed for sampling during June 1999 EPIC study review meeting.**

Former swale located between Buildings 13 and 199/278 (also see Sites 10 and 17). Area between these buildings has been paved since 1949 photos (road in 1937).

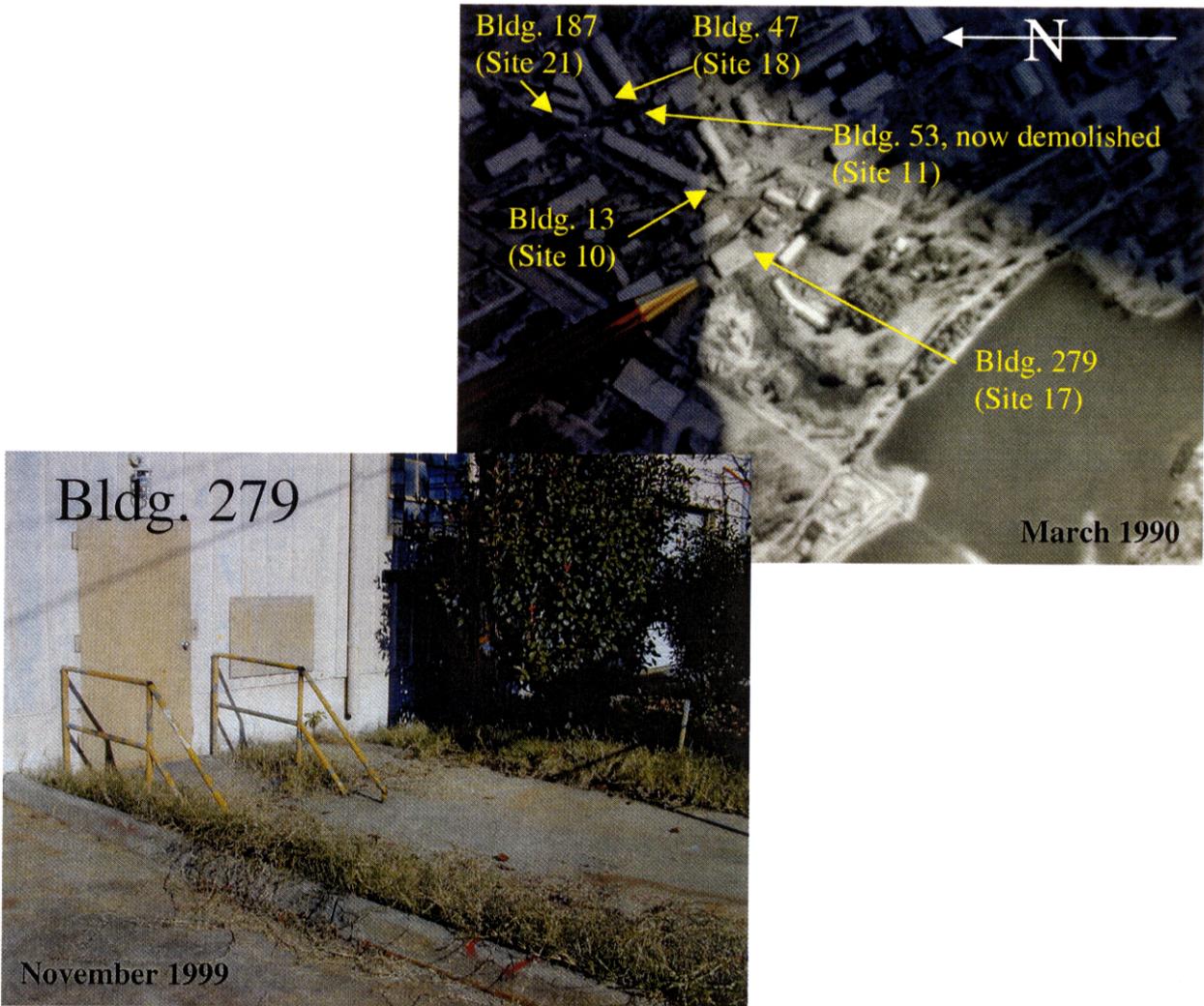


- Evaluated during November 1999 site visit. Based on review of aerial photography and evaluating site conditions (past and present) swale from Building 13 to Building 199 discharged into the tidal marsh behind Buildings 199 & 279. This marsh is under investigation as part of the Landfill B (Site 2) RI.
- **NFA is proposed, discussion of Building 13 (Site 10) in SSA investigation report will briefly address RFA SWMU 31.**

## SITE 17 (RFA - AOC A)

### Storage Pad at Building 279

This small structure is located within the industrial area, east of Craddock Street and consists of a concrete storage pad located just outside Building 279. The storage pad is used to store drums of degreaser. Stains on the ground near the pad, as well as indications of poor management were noted during the RFA.

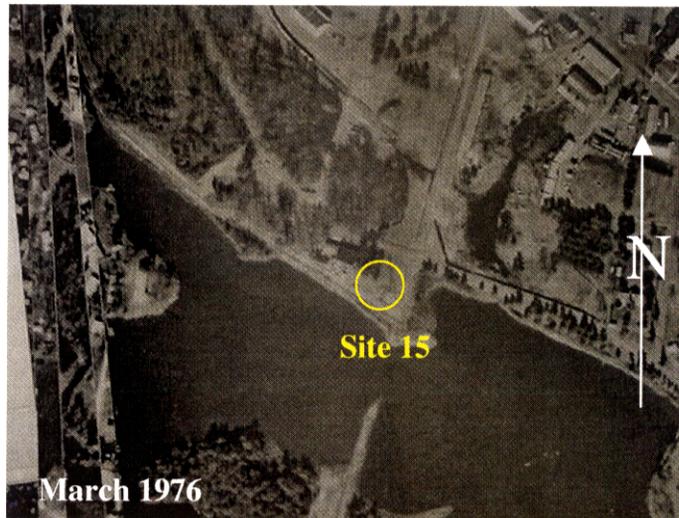


- Planned SI for Sites 15 & 17 to determine additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- Sites 15 & 17 SI report will include a Screening ERA. BTAG concurred with this proposal during the November 1999 site visit. BTAG recommended combining this site ecologically with Site 2, Landfill B, which is adjacent to the site.

## SITE 15 (RFA - SWMU 27)

### Fire Training Area

The fire training site consists of two celled areas behind (east) of Building 271 which are used to train fire fighting personnel. One of the celled areas consists of a burn area where wooden pallets, soaked in diesel fuel, were burned and extinguished with water. The other area is a steel-lined burn pit (4 ft by 4 ft by 3 ft deep) which was filled with diesel fuel, ignited, and extinguished with carbon dioxide.

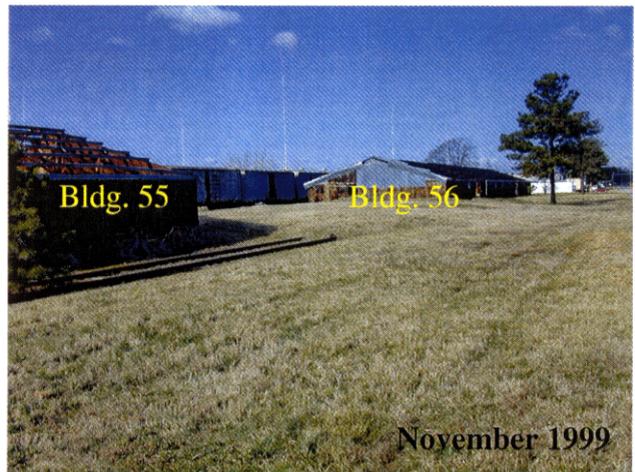
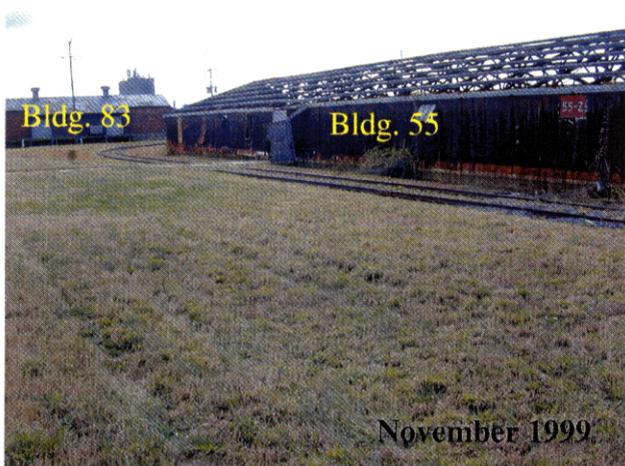
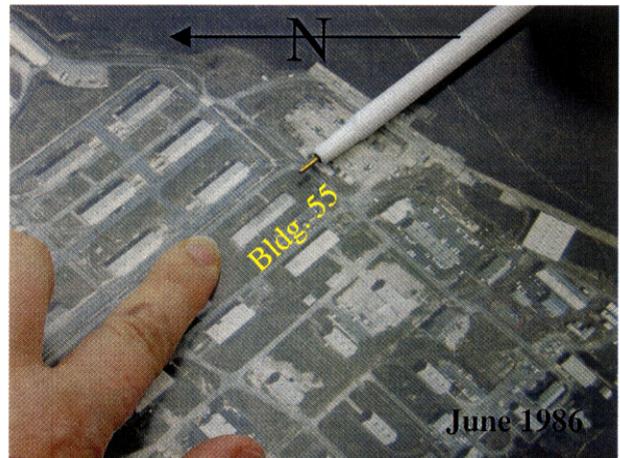
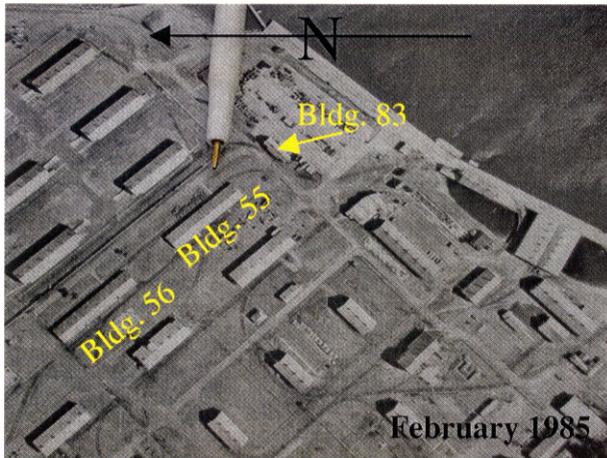


- Planned SI for Sites 15 & 17 to determine additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- Sites 15 & 17 SI report will include a Screening ERA. BTAG concurred with this proposal during the November 1999 site visit. BTAG recommended combining this site ecologically with Site 2, Landfill B, which is adjacent to the site.

## EPIC - AOC 11

Located northeast of Building 55.

February 1985 & June 1986 - Open storage of drums/material at Bldg. 55, between RR and road. No evidence of storage in previous or later photos.

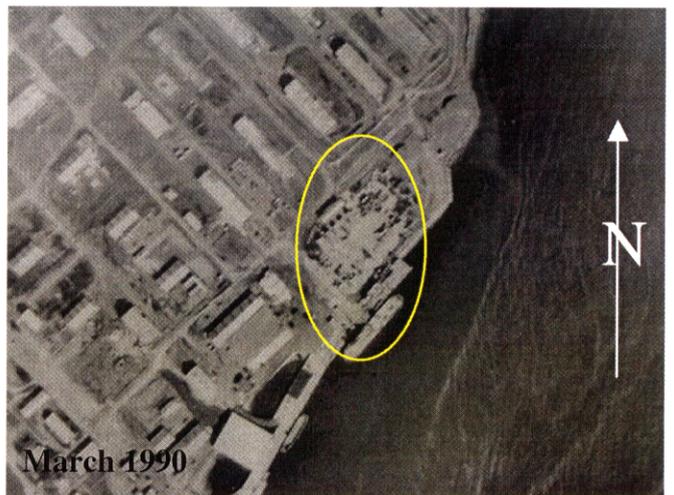
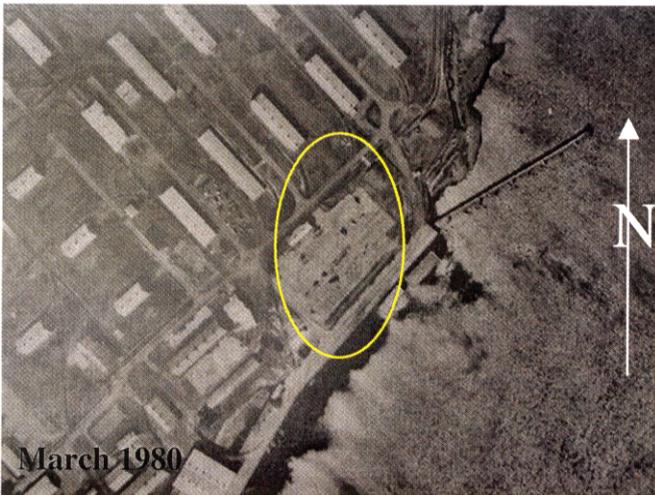
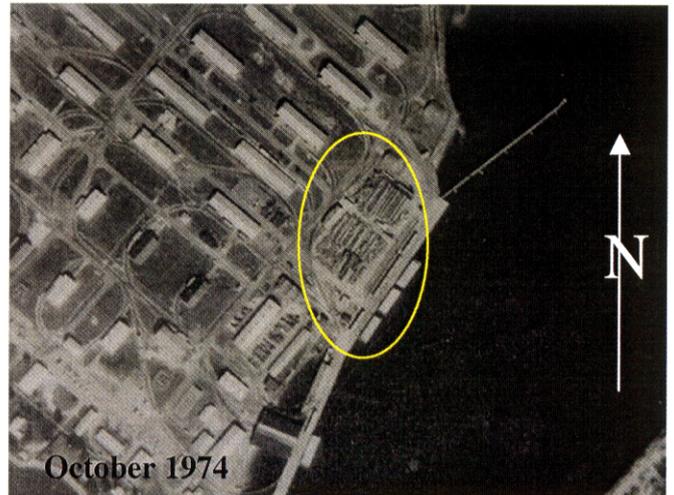
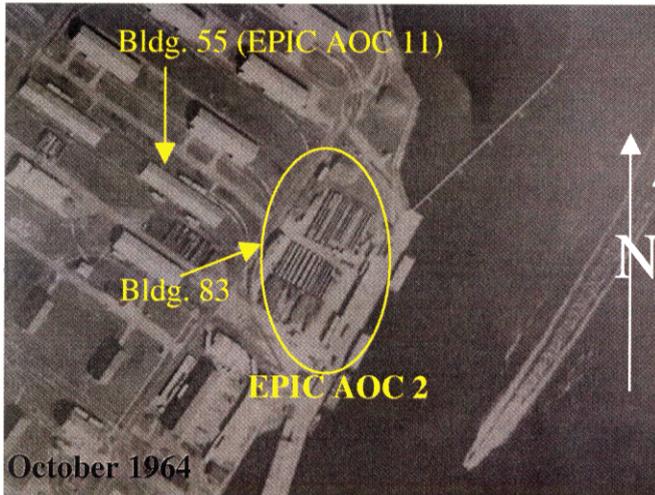


- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), **NFA is proposed - Navy will provide details of site identification and rationale for NFA determination in the SSA report.**

## EPIC - AOC 2

Piers, in front of Building 83.

Storage of materials, possible ordnance materials, in extended rows pattern. Storage of items in this manner, is not evident after the 1976 photos; all SJCA ordnance operations/processes moved to NWS Yorktown in 1977. No releases have been reported in this storage area.

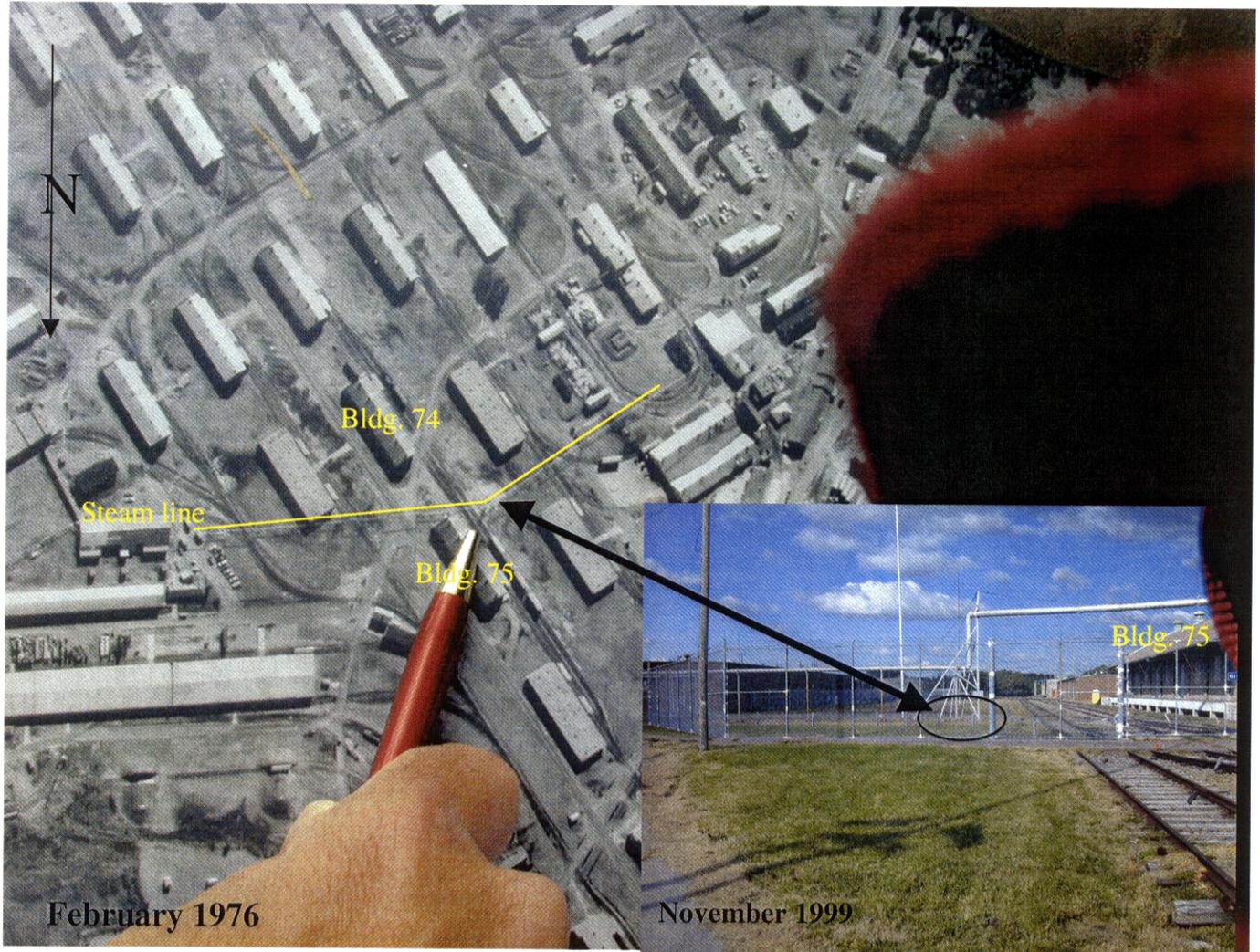


- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. The Navy will research and provide additional information regarding the storage of materials in this area. This information will be provided in the SSA report. No sampling is proposed in this area. Potential NFA site - Navy will provide details of site and make further action determination in the SSA report.

## EPIC - AOC 9

Located southwest of Building 74.

February 1976 - Ground scarring under steam line, next to RR tracks. AOC identified in previous 1970s and early 1980s photos.

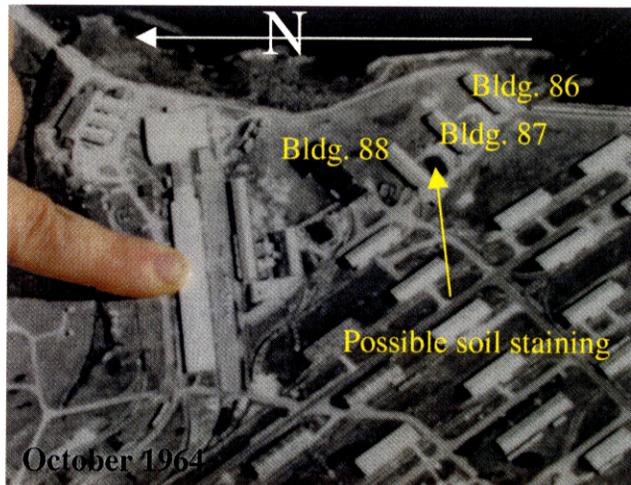


- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), **NFA is proposed - Navy will provide details of site identification and rationale for NFA determination in the SSA report.**

## EPIC - AOC 5

Located between Buildings 87 and 88.

October 1964 - Possible soil staining

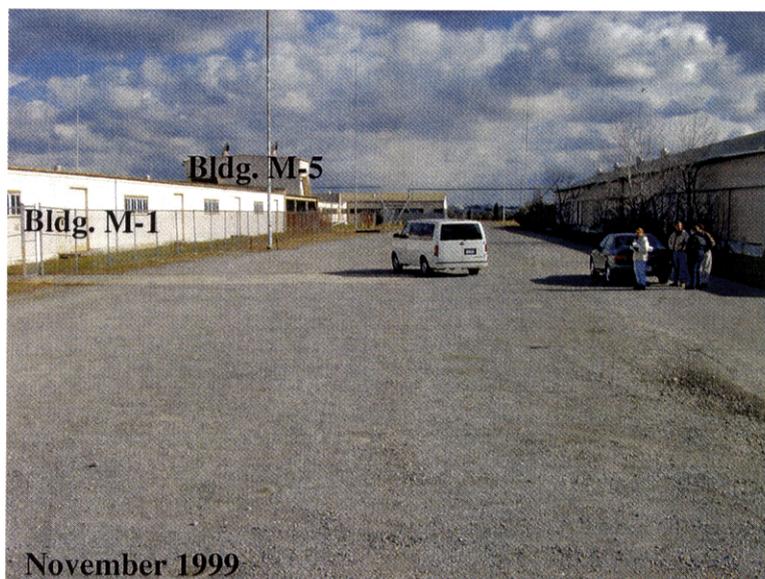


- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), the “soil staining” appears to be ponded water or wet soils due to poor drainage in the area (grading is not towards any catch basin).
- **NFA is proposed - Navy will provide details of site identification and rationale for NFA determination in the SSA report.**

## EPIC - AOC 4

Parking lot, located south of Building M-1.

May 1958 - Soil staining identified south of Building M-1, possible storage tanks.

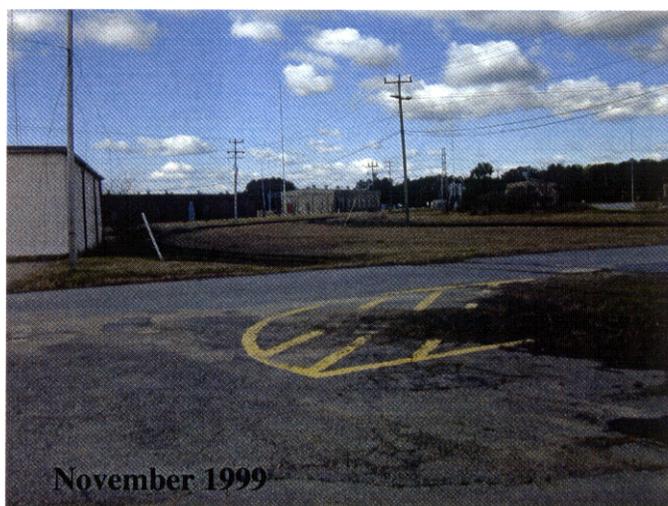
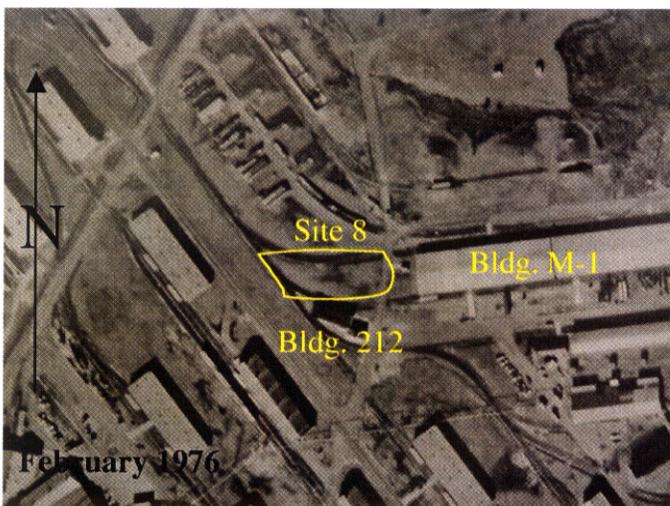
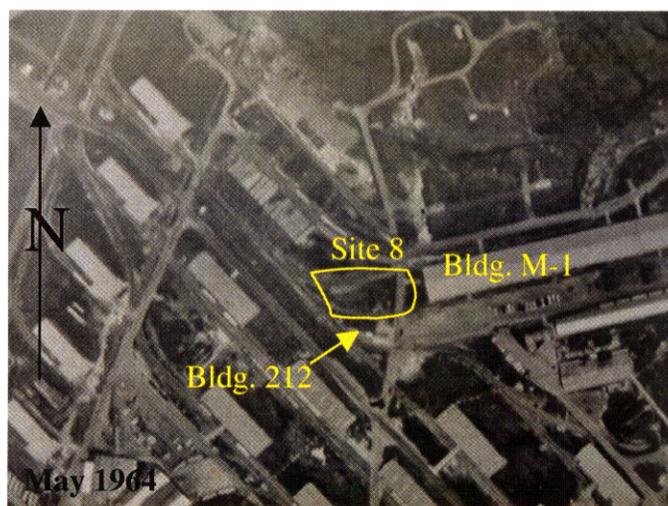
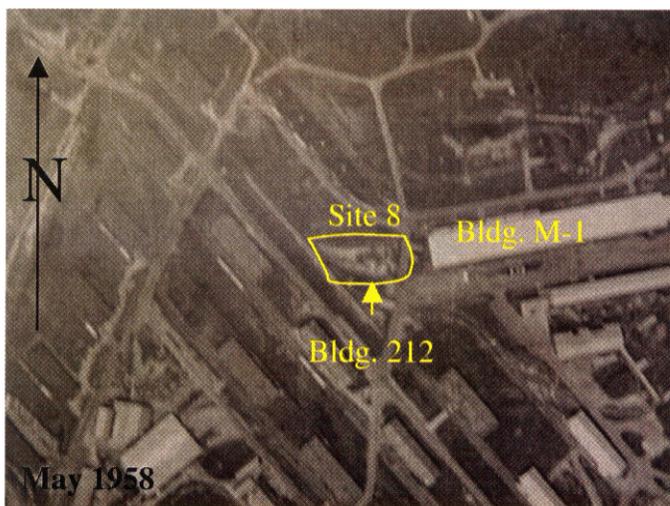


- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), the “soil staining” appears to be from automobiles/trucks in the a parking lot. The “storage tanks” are believed to be trailers.
- **NFA is proposed - Navy will provide details of site identification and rational for NFA determination in the SSA report.**

## SITE 8 (RFA - SWMU 9) - Cross and Mine

Located at the intersection of Cross Street and Mine Road, adjacent to and north of Building 212 and across the street from Building M-1.

This site was used for disposal of rinse water from mobile insecticide and herbicide spray trucks from the 1950s to mid 1960s. An estimated 675,000 gallons of rinse water was discharged directly to soil and allowed to infiltrate.

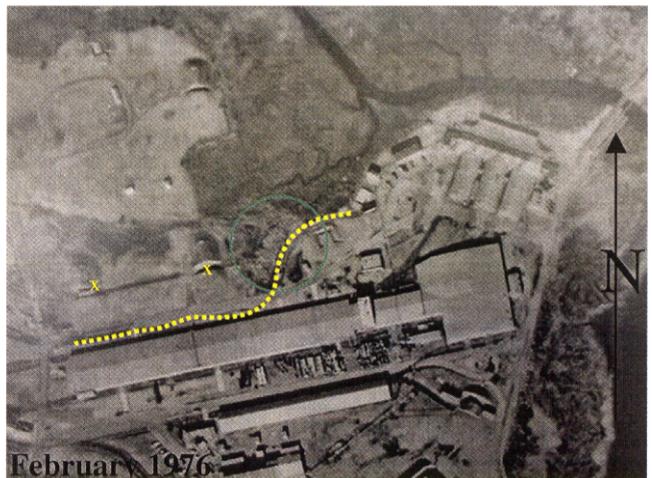
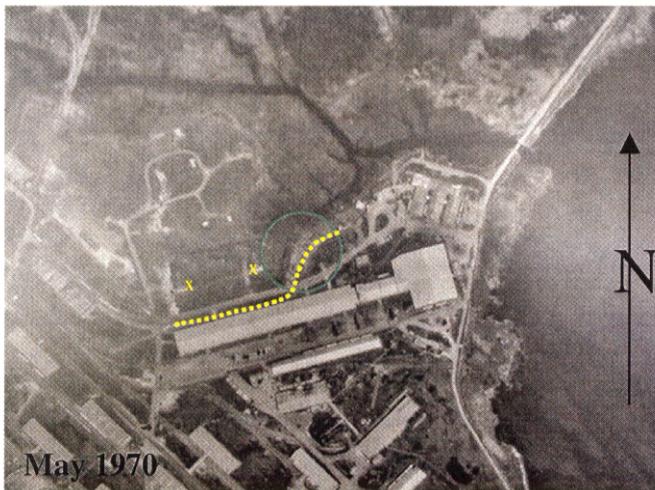
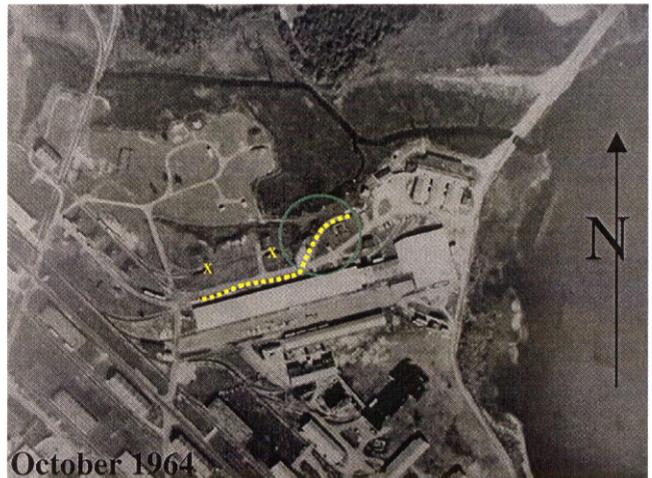
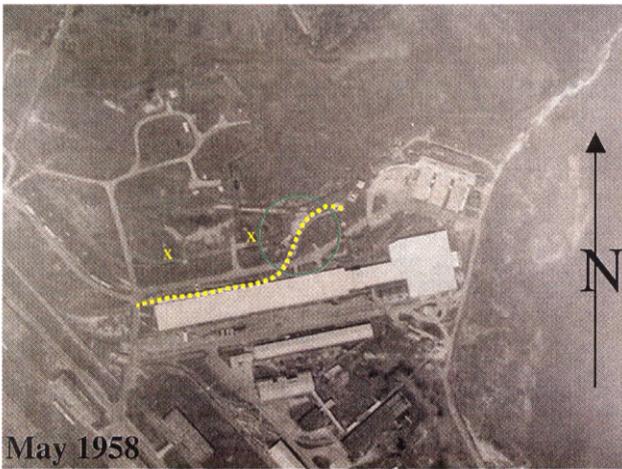
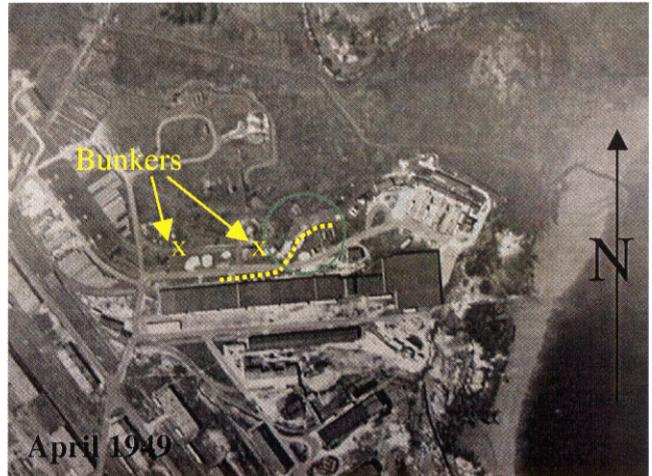
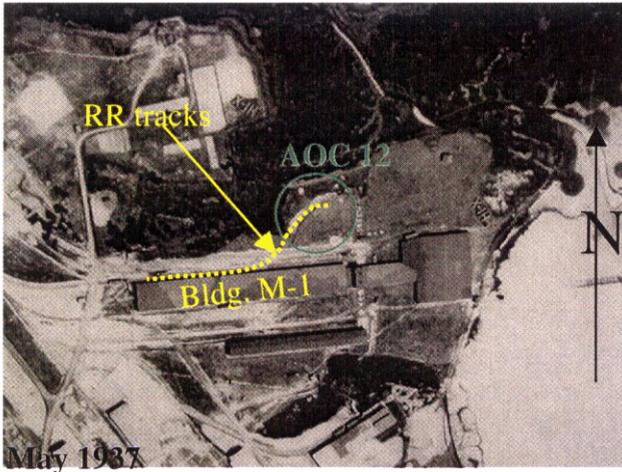


- Included for evaluation in SSA investigation which will group sites into categories based on additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- SSA report will provide documentation that minimal/no ecological receptors are located at this site (Step 1), and recommend NFA for ecological concerns. BTAG concurred with this proposal during the November 1999 site visit.

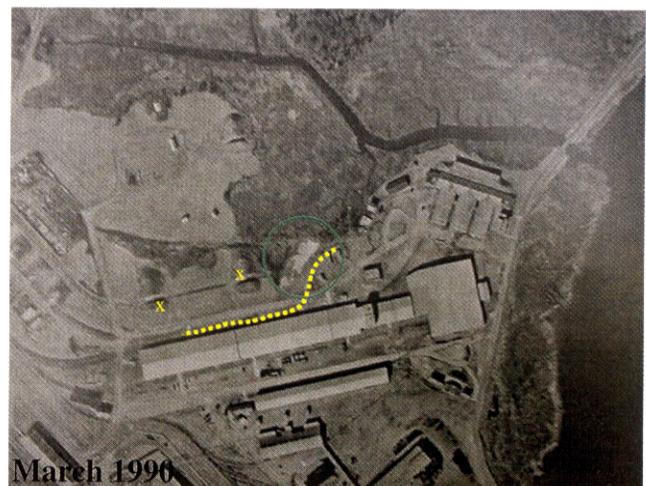
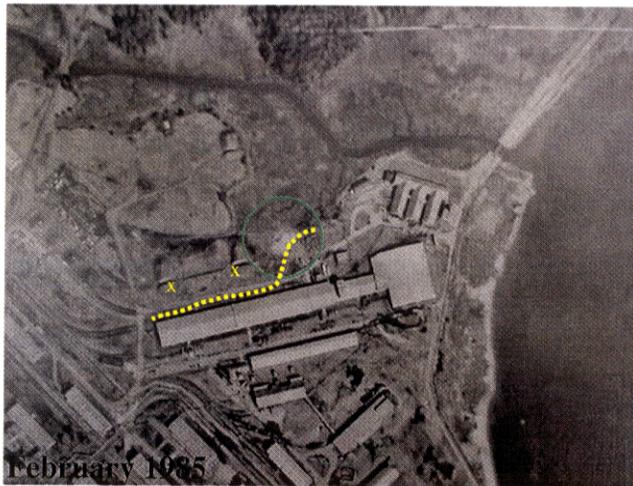
# EPIC - AOC 12

Located north of Buildings M-1 and M-5, directly adjacent to Blows Creek.

Sandy flat area next to RR tracks is void of vegetation for extended period of time. No storage of waste disposal is shown in this area.



## EPIC - AOC 12 (continued)



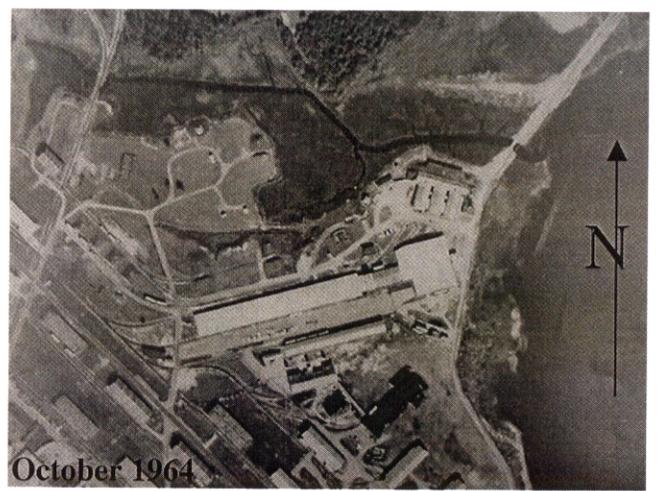
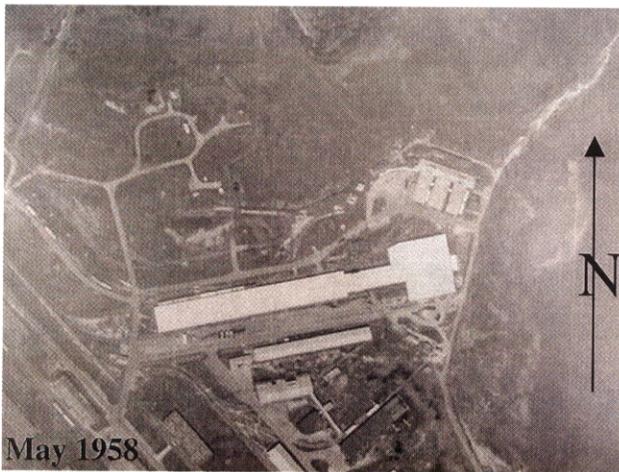
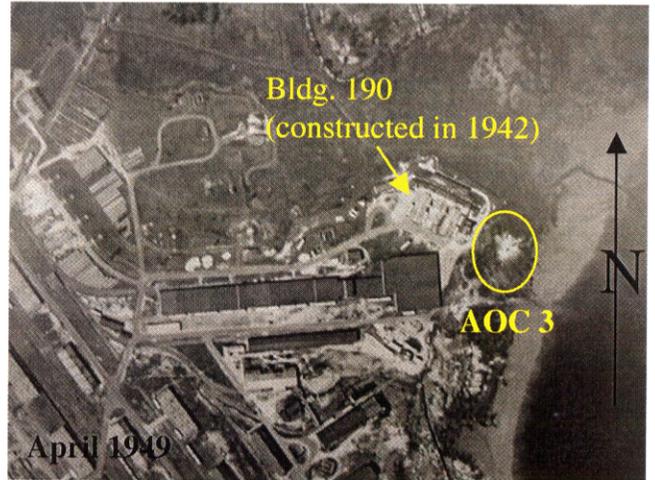
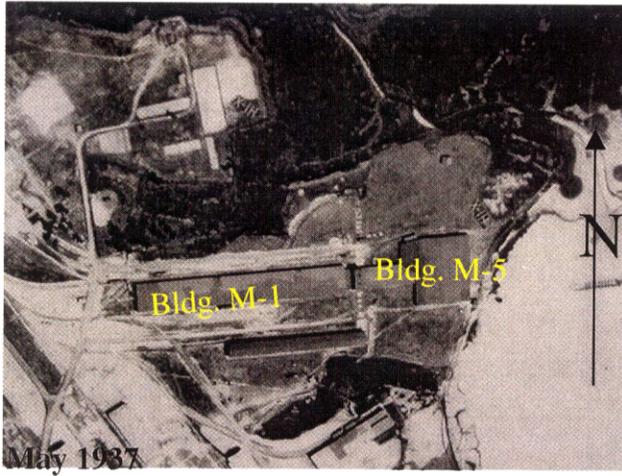
- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), the area of former marsh (1937) has been filled as evidenced by shell fragments found in the sandy soils; however, due to the lack of vegetation in the area for extended periods of time this AOC is proposed for additional investigation.
- Soil (surface and sub-surface) and geo-physics are proposed for the SSA field investigation to determine additional action: additional investigation (RI) required, removal action warranted, or no further action determination.

# EPIC - AOCs 3 & 10

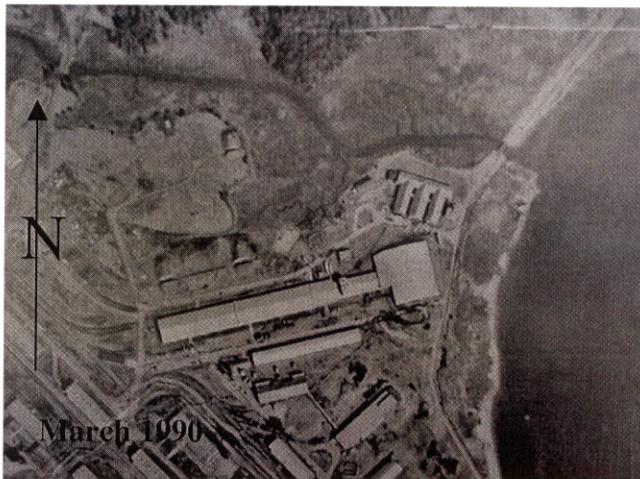
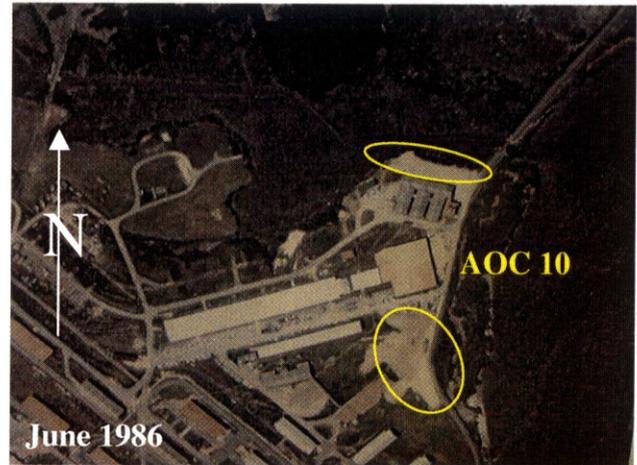
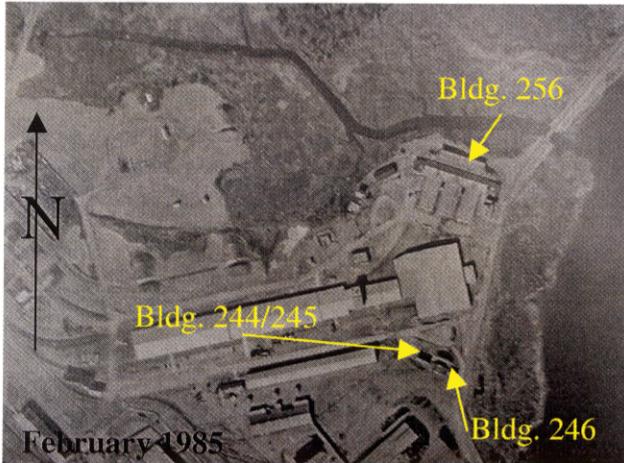
Ground scarring located in the vicinity of Building M-5 and Wharf Area, identified as:

AOC 3 - (April 1949)

AOC 10 - (June 1986)



## EPIC - AOC 3 & 10 (continued)

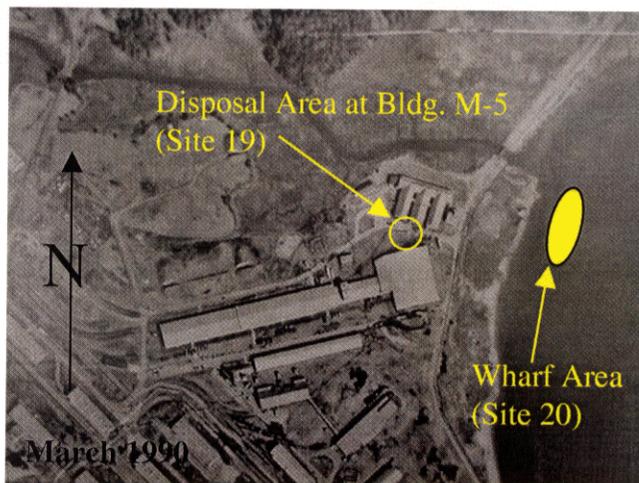
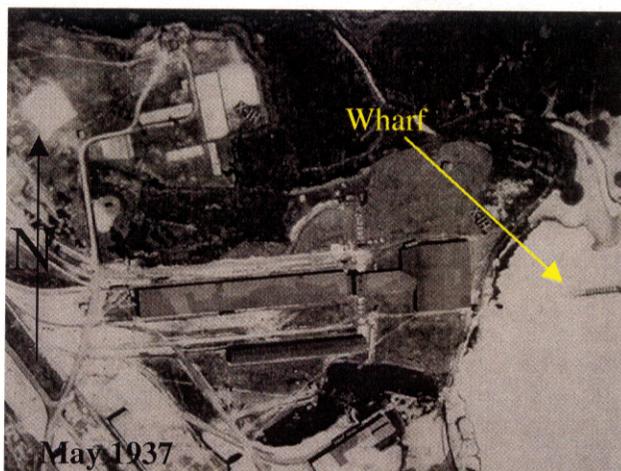


- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), the “ground-scarring” at AOC 3 is fill material ( note the extension of the facility to the east of Building M-5 from the previous photo in 1937) and the “ground-scarring” at AOC 10 is activity associated with the demolition of Buildings 244, 245, 256 & 256.
- **NFA is proposed - Navy will provide details of site identification and rational for NFA determination in the SSA report.**

## SITES 19 & 20

**Site 19** - Located along the NE side of Building M-5 in the area where the RR diverge into Building 190 loading bays. It was reported that various ordnance items may have been disposed of in this area during past ordnance management activities.

**Site 20** - Former wharf off building M-5. The IAS concluded that it was likely that ordnance had been dropped into the sediments adjacent to the former wharf during loading and unloading operations. During the RRR, an underwater reconnaissance and a magnetometer survey were performed in that area. The magnetometer survey identified approximately 68 buried "contacts" surrounding the former wharf pilings. Many individual contacts were identified in random locations between the pilings. The most significant concentration of contacts are along the center west side of the pilings, between the pilings and the river bank. It is important to note that contacts might indicate any type of buried metal object, and do not necessarily indicate the presence of buried ordnance. No visual confirmation of contacts were made during the RRR data collection study.

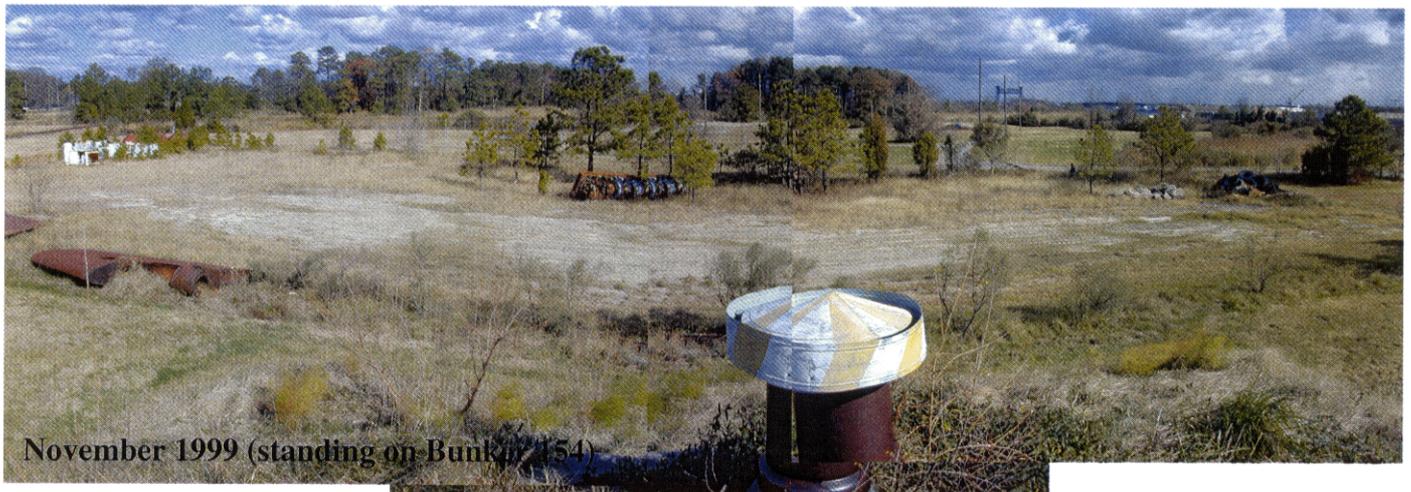
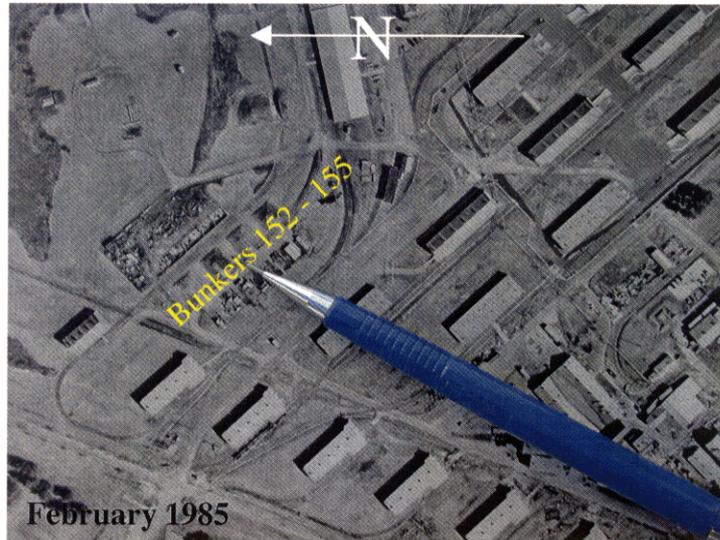


- Included for evaluation in SSA investigation to determine additional investigation requirements, or removal action warranted, or no further action required.

## SITE 7 (RFA - SWMU 17) - Old Storage Yard #1

Open storage area behind Buildings (bunkers) 152 to 155

This site consists of a fenced, outdoor grassy area used to store a variety of material including anchors, chain and equipment. During previous site investigations, 5-gallon containers of hydraulic oil, lubricating oil, lead paint, and open drums of sandblast grit were observed. Also during the investigations, evidence that oils had leaked or was drained onto soil from some of the equipment being stored at the site.

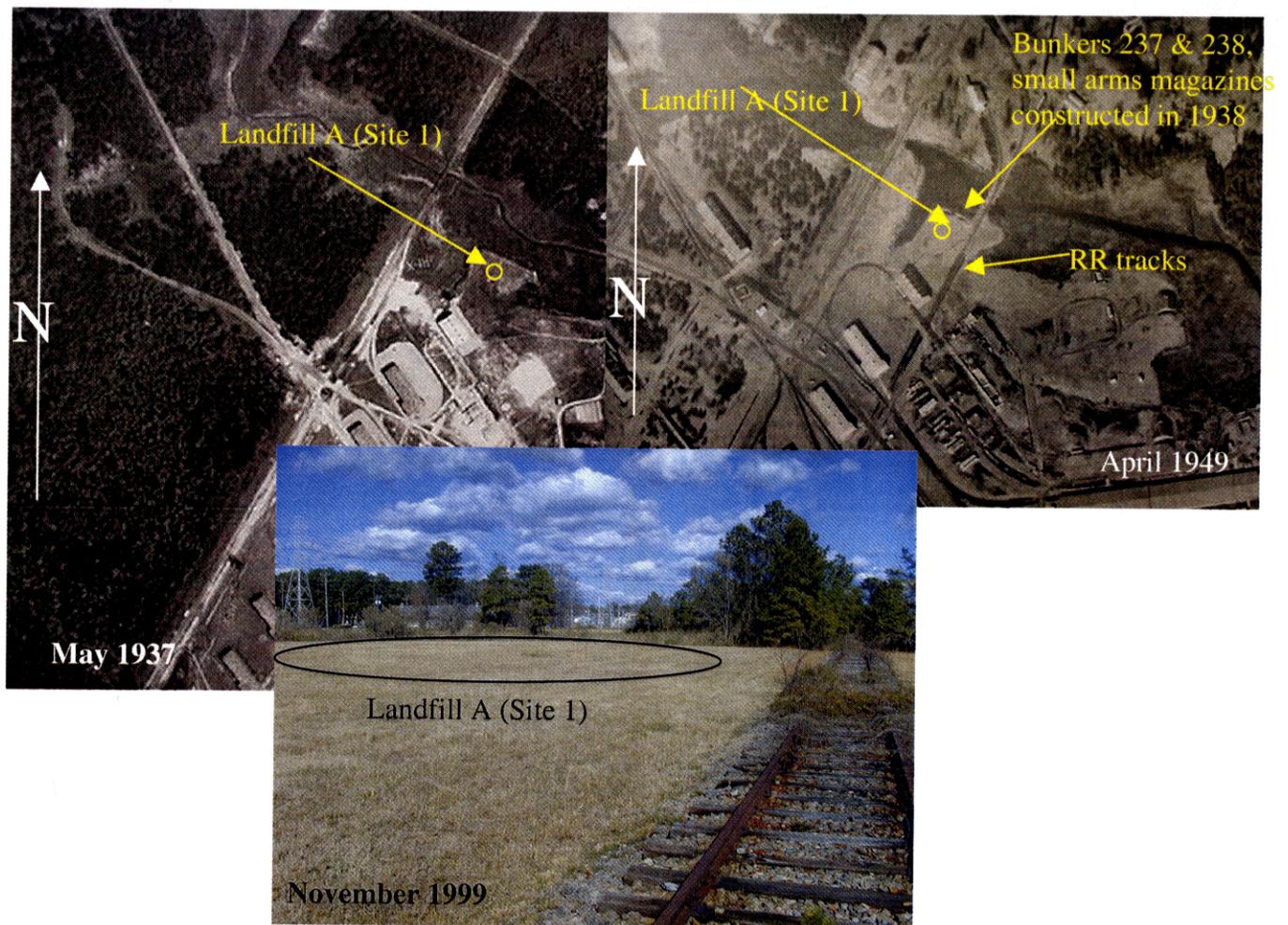


- Included for evaluation in SSA investigation which will group sites into categories based on additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- SSA report will provide documentation that minimal/no ecological receptors are located at this site (Step 1), and recommend NFA for ecological concerns. BTAG concurred with this proposal during the November 1999 site visit.
- Small area of soil staining noted under the remaining piece of equipment - will be addressed in the SSA report.

## SITE 1 (RFA - SWMU 1)- LANDFILL A

Adjacent to Buildings (bunkers) 237 and 238 (now demolished)

The landfill was used from 1921 to 1924 primarily for the disposal of trash and garbage. Additionally, some pesticides, acids and bases were dumped at the site. Reportedly, the trash was burned at the site and the ashes used to fill the marsh area at the site (adjacent to Blows Creek). The estimated volume of disposed material (prior to being burned) is estimated at 30,000 cubic yards.

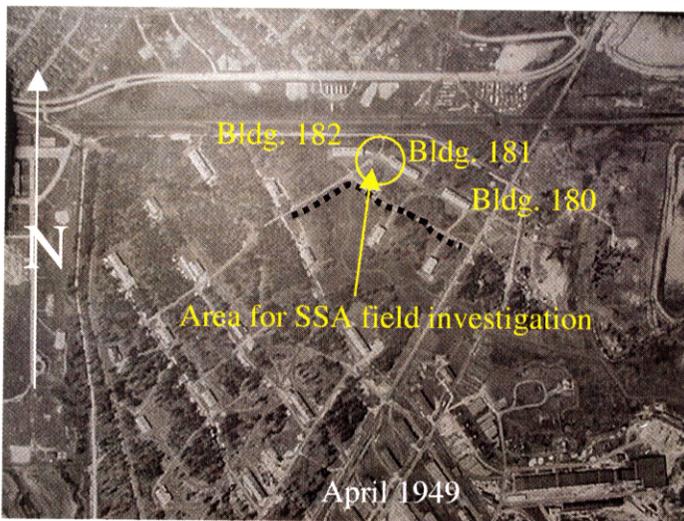
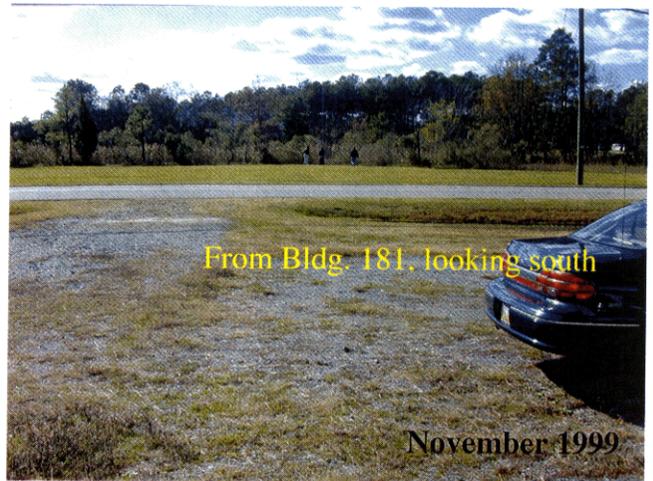
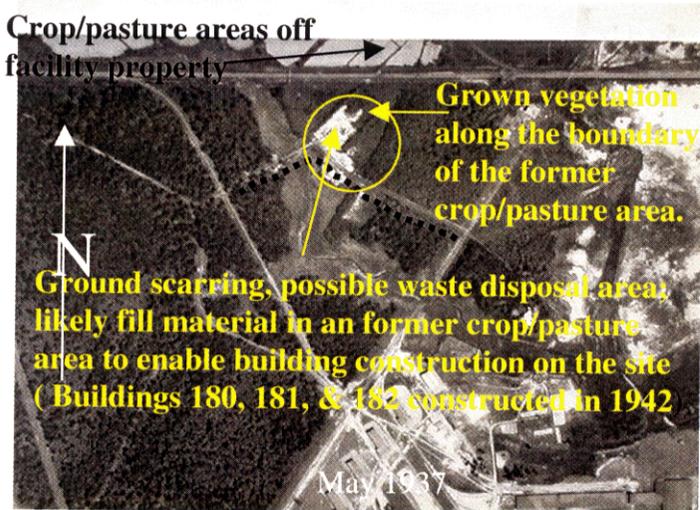


- Included for evaluation in SSA investigation which will group sites into categories based on additional action: additional investigation (RI) required, removal action warranted, or no further action determination.
- SSA report will provide the preliminary conceptual site model for the ERA process. BTAG recommended evaluating EPA's HRS data to determine if any contamination is migrating from this site. If a contamination gradient is not evident, which is expected due to site's age, additional sediment samples in Blow's Creek at the perimeter of the site may be collected to support a possible NFA determination.

# EPIC - AOC 1

Corner of E Street & Marsh Road, west of Building 182 & 181.

May 1937 - Ground scarring, possible waste disposal area.



- Review of EPIC study in June 1999 recommended site recon/visit to determine if any additional action is required.
- Evaluated during November 1999 site visit. Based on additional review of aerial photography and evaluating site conditions (past and present), the “ground-scarring” is probably fill material in an former crop/pasture area to enable building construction on the site. The linear features around the AOC is grown vegetation along the boundaries of the former crop/pasture area.
- Soil (surface and sub-surface) and geo-physics are proposed for the SSA field investigation to determine additional action: additional investigation (RI) required, removal action warranted, or no further action determination.