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NAS BRUNSWICK
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FINAL RESOURCE CONSERVATION AND RECOVERY ACT PARTIAL CLOSURE REPORT
FOR BUILDINGS 543 AND 544 WITH TRANSMITTAL LETTER NAS BRUNSWICK ME
3/31/2011
NAS BRUNSWICK

**ENVIRONMENTAL DEPARTMENT
NAVAL AIR STATION
437 HUEY DRIVE
BRUNSWICK, ME 04011**

March 31, 2011

Mr. Edward Vigneault
Maine Department of Environmental Protection
Division of Oil and Hazardous Waste Facilities Registration
17 State House Station
Augusta, ME 04333-0017

Subj: Final RCRA Partial Closure Report for Buildings 543 and 544

Dear Mr. Vigneault:

A copy of the Final RCRA Partial Closure Report for Buildings 543 and 544 at Naval Air Station Brunswick is provided as Enclosure (1).

If you have any questions, please contact Mr. Mike Fagan at 921-1717 or via e-mail at michael.fagan1@navy.mil.

Sincerely,



Fal LISA M. JOY
Environmental Director

Enclosure: (1) Final RCRA Partial Closure Report for Buildings 543 and 544

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RCRA PARTIAL CLOSURE REPORT
for
BUILDING 543 – HIGH EXPLOSIVE MAGAZINE
BUILDING 544 – HIGH EXPLOSIVE MAGAZINE
NAVAL AIR STATION BRUNSWICK, MAINE
USEPA IDENTIFICATION NUMBER ME8170022018
MARCH 2011

1. INTRODUCTION

The purpose of this report is to present the findings and conclusions of the investigation conducted to determine if the Maine Department of Environmental Protection (MEDEP) RCRA or hazardous waste closure requirements have been completed for Buildings 543 and 544 at Naval Air Station Brunswick (NAS Brunswick).

2. PROPERTY DESCRIPTION

Weapons Buildings 543 and 544, High Explosive Magazines, are part of the NAS Brunswick Weapons Area, located in the southernmost central portion of NAS Brunswick (Figure 1). The buildings are within the RCRA Partial Closure Weapons Magazine Area. The general location and physical description of the two buildings are summarized below. Photographs of the exterior and interior of the buildings are provided as an attachment to this report.

Building 543

Building 543 is located west of the southern loop of Ordnance Road, and west of an unnamed access road off of this loop, used to access the former Advanced Undersea Warfare (AUW) Area at NAS Brunswick (Figure 2). The building is bordered to the north by the perimeter security fence and the former Building 541 (AUW Sentry House) foundation; to the east by the unnamed access road, the Ordnance Road loop, and Building 285 (Ammo Storage Facility) beyond, to the southeast; to the south by Building 544 and the perimeter security fence beyond; and to the west by the perimeter security fence, with Merriconeag Stream and marshland beyond.

Building 543 was constructed in 1958. The building has an area of 1,232 square feet and the entire building is earth-covered. (This square-footage includes the area as outlined by the outer, earth-covered footprint [Figure 2]). The building is comprised of a single room with approximate dimensions of 43 feet by 25 feet, and features a ventilation stack through the roof. The structure is constructed with a reinforced-concrete arch-roof and reinforced-concrete end wall on a concrete slab foundation. The front of the structure is constructed of a reinforced-concrete retaining wall fitted with security/blast doors. A reinforced-concrete retaining blast wall is located opposite of the structure entrance. Building 543 is not heated.

Building 544

Building 544 is also located west of the southern loop of Ordnance Road, and west of an unnamed access road off of this loop, used to access the former AUW Area at NAS Brunswick. The building is bordered to the north by Building 543; to the east by the unnamed access road, the Ordnance Road loop, and Building 285 (Ammo Storage Facility) beyond; to the south by the perimeter security fence; and to the west by the perimeter security fence, with Merriconeag Stream and marshland beyond.

Building 544 was constructed in 1958. The building has an area of 2,252 square feet and the entire building is earth-covered. (This square footage includes the area as outlined by the outer, earth-covered footprint [Figure 2]). The building is comprised of a single room with approximate dimensions of 80 feet by 25 feet, and features a ventilation stack through the roof. The structure is constructed with a reinforced-concrete arch-roof and reinforced-concrete end wall on a

concrete slab foundation. The front of the structure is constructed of a reinforced-concrete retaining wall fitted with security/blast doors. A reinforced-concrete retaining blast wall is located opposite of the structure entrance. Building 544 is not heated.

The investigation conducted under this report applies only to the building footprints of Buildings 543 and 544 (footprints as shown on Figure 2). The Weapons Magazine Area RCRA Partial Closure Report addresses the land surrounding and the groundwater underlying Buildings 543 and 544.

3. PROPERTY HISTORY AND RECORDS RESEARCH

The Tetra Tech NUS, Inc. (Tetra Tech) project team interviewed NAS Brunswick Environmental Department personnel and performed records research at both NAS Brunswick and the MEDEP office in Augusta, Maine to collect available information concerning Buildings 543 and 544, including past use and operations at these locations.

Records reviewed include historical aerial photographs, the NAS Brunswick Other Environmental Liabilities (OEL) Database, area-specific reports, facility plans and drawings, and hazardous waste records. Aerial photographs dated 1953, 1958, 1978, 1981, 1984, 1989, 1993 and 1997 (Sewall, 1953, 1958, 1978, 1981, 1984, 1989, 1993 and 1997) were reviewed. Additional aerial photographs for the parcel dated 1940, 1959, 1965, 1966, 1972, 1978, and 1980 were also reviewed (U.S. EPA, 1987). Public Works Department (PWD) site base maps dated 1943, 1946, 1952, 1956, 1957, 1975, 1978, 1979, 1989, and 2006 (PWD, 1943, 1946, 1952, 1956, 1957, 1975, 1978, 1979, 1989, and 2006a) and site building lists for 1950, 1965, 1976, 2003, 2006 and 2008 (PWD, 1950, 1965, 1976, 2003, 2006b, and 2008a) were also reviewed.

The 1953 aerial photograph is the earliest to show the area of Buildings 543 and 544. This photograph shows the area as undeveloped woods, with Merriconeag Stream to the west. The 1956 historical map shows the New Ordnance Area to the west of the Buildings 543 and 544 area. The unnamed access road and Building 543 and 544 are not present. Beginning with the 1957 historical plan, Buildings 543 and 544 are present, along with the unnamed access road and a double perimeter security fence surrounding the entire area. No further changes are noted until the 1969 historical map, which shows former Buildings 541 (AUW Sentry House) and 542 (AUW Generator Shed) northeast of Building 543. No changes are noted until the 1984 aerial photograph which shows the double security fence removed, and a single security fence located on the northern, western, and southern sides of the former AUW area. The 1989 historical map and aerial photographs show Building 541 and 542 have been demolished, and a concrete foundation remains northeast of Building 543. No further changes are noted in site maps or aerial photographs dated after 1989.

In the 1983 Initial Assessment Survey (IAS), the use of Buildings 543 and 544 are listed as "high explosives magazine". Also according to the 1983 IAS, the Department of Defense (DOD) Explosives Safety Board in Alexandria, Virginia had conducted annual surveys at NAS Brunswick for the previous 5 years. The purpose of the surveys was to inspect conditions with respect to maintenance, disposal, handling, transportation, and storage of ammunition and explosives. No contaminated areas or improper disposal practices were noted at the base during these surveys (Weston, 1983).

Building 543

Based on a review of the historical building lists and discussions with NAS Brunswick Public Works Department (PWD) personnel, since its construction in 1958, Building 543 was used only as a magazine, including possible special-weapons storage. There is no record of hazardous waste generation at Building 543 (Environmental Department, 2010).

No sanitary facilities are present at Building 543. The area where the building is located is not served by the base-wide sanitary sewer system and no septic systems were identified as associated with Building 543 (Navy, 2006). No oil/water separator (OWS) has been associated with Building 543 (PWD, 2008b).

According to MEDEP and NAS Brunswick spill records, no spills were reported in the vicinity of Building 543 (Environmental Department, 1999; Environmental Department 2005; and MEDEP, 2010).

The NAS Brunswick Removed Transformer Database lists no electrical transformers associated with the current Building 543 (PWD, 2009).

The NAS Brunswick Aboveground Storage Tank (AST) and Underground Storage Tank (UST) inventory records for Building 543 indicate that no ASTs or USTs have been associated with Building 543 (Environmental Department, 2009).

According to Mr. Brion Hall, NAS Brunswick Explosive Safety Officer, Hazard Class 1.1 explosives were stored in Building 543. Hazard Class 1.1 explosives are those with a mass explosion hazard such as composition 4 (C4), a plastic explosive. Due to weapons security issues, no additional information is available on quantities and types of explosives stored.

Building 544

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No sanitary facilities are present at Building 544. The area where the building is located is not served by the base-wide sanitary sewer system and no septic systems were identified as associated with Building 544 (Navy, 2006). No OWS has been associated with Building 543 (PWD, 2008b).

According to MEDEP and NAS Brunswick spill records, no spills were reported in the vicinity of Building 544 (Environmental Department, 1999; Environmental Department 2005; and MEDEP, 2010).

The NAS Brunswick Removed Transformer Database lists no electrical transformers associated with the current Building 544 (PWD, 2009).

The NAS Brunswick AST and UST inventory records for Building 544 indicate that no ASTs or USTs have been associated with Building 544 (Environmental Department, 2009).

According to Mr. Brion Hall, NAS Brunswick Explosive Safety Officer, Hazard Class 1.1 explosives were stored in Building 544. Hazard Class 1.1 explosives are those with a mass explosion hazard such as composition 4 (C4), a plastic explosive. Due to weapons security issues, no additional information is available on quantities and types of explosives stored.

4. SITE VISIT AND INVESTIGATION

Site visits were conducted for Building 543 on September 16, 2010, by Mr. Mark Speer, P.E., and Mr. Brandon Smith, P.E., and for Building 544 on August 12, 2010, by Mr. James Forrelli, P.E., and Mr. Brandon Smith, P.E., of Tetra Tech. The purpose of the visits was to verify information gathered during the records search and to collect additional information as necessary to prepare this closure report. Tetra Tech personnel were accompanied by Mr. D. Bruce Smith, the NAS Brunswick Hazardous Waste Manager. The building was visually inspected for signs of

hazardous waste generation or storage. Site visit observations, recorded on the attached Building Inspection Forms ⁽¹⁾, are summarized below:

Building 543

- At the time of inspection, Building 543 was vacant and in fair condition.
- No evidence of current or past hazardous waste generation was observed.
- No signs of a past release (staining, unusual odors, stressed vegetation, etc.) were observed.
- No modifications to the structure, which may conceal signs of a past release, were observed.
- Some localized rusted areas were observed on the exterior of the blast doors, where paint had deteriorated. No loose or flaking paint was observed on the interior of the blast doors.
- No floor drains were observed.

Building 544

- At the time of inspection, Building 544 was vacant and in fair condition.
- No evidence of current or past hazardous waste generation was observed.
- Staining of the concrete floor was observed in the rear of the magazine.
- No modifications to the structure, which may conceal signs of a past release, were observed.
- Some localized rusted areas were observed on the exterior of the blast doors, where paint had deteriorated. No loose or flaking paint was observed on the interior of the blast doors.
- No floor drains were observed.

Based on the site visit observations and records research findings, wipe samples were collected to investigate the potential presence of metals-contaminated residue. Since the history and use of both buildings is very similar, the wipe samples were initially collected at Building 544, with the objective of cleaning both Buildings 543 and 544, if analytical results indicated levels were present above clearance values. The investigation sample results are discussed below.

On September 17, 2010, wipe samples were collected from floors and walls inside Building 544. A total of six locations (plus two duplicates) were sampled (Figure 3). The wipe samples were collected with cotton gauze saturated with dilute nitric acid (1:4 nitric acid to distilled water), for RCRA metals analysis. A 10-centimeter (cm) by 10-cm sampling area was wiped with the cotton gauze while applying moderate pressure. Wipe samples were submitted for analysis by Tetra Tech's subcontracted analytical laboratory, Analytics Environmental Laboratories (Analytics). The resulting analytical data underwent limited data validation consisting of field duplicate evaluation, blank contamination evaluation, and completeness evaluation.

Wipe sample results for the Building 544 investigation are presented in Table 1. For lead, analytical results were compared to the following MEDEP criteria for lead-contaminated settled dust, applicable for RCRA closures:

Floors: 40 micrograms per square foot ($\mu\text{g}/\text{ft}^2$)
Walls and other flat surfaces up to a height of 8 feet: 250 $\mu\text{g}/\text{ft}^2$
Surfaces above 8 feet: visibly clean (dust-free)

There are no Maine criteria for the other seven RCRA metals. However, for these RCRA Partial Closure activities, the MEDEP has approved the use of World Trade Center (WTC) Settled Dust Screening Values (WTC, 2003) as clearance values for wipe sample results for six of the other seven metals (there are no WTC screening values for selenium). Therefore, the investigation and

closure actions were designed to meet the lead-contaminated settled dust criteria and all other metals-contaminated settled dust clearance values.

As shown in Table 1, lead was detected at levels exceeding the MEDEP lead criterion for floors ($40 \mu\text{g}/\text{ft}^2$) in all four floor-wipe samples. Cadmium was detected at levels exceeding the associated clearance value ($140 \mu\text{g}/\text{ft}^2$) at three of the four floor locations. Chromium was detected at levels exceeding the associated clearance value ($440 \mu\text{g}/\text{ft}^2$) at two of the four floor-wipe sample locations. No exceedances of the metal clearance values were reported for the two wall-wipe sample locations.

Based on the analytical results, cleaning of Building 544 was required to remove metals-contaminated residue exceeding the associated clearance values for floors (cleaning is discussed in Section 6). Based on the analytical results at Building 544, and based on its similar use and history, cleaning of Building 543 was also warranted to remove potential metals-contaminated residue exceeding criteria (discussed in Section 6).

5. HAZARDOUS WASTE GENERATION AND STORAGE

Based on records review, site visit observations and sampling results, hazardous waste residue was generated at Buildings 543 and 544 in the form of metals-contaminated dust. The areas impacted by metals-dust were also addressed by the closure actions described in Section 6.0.

6. CLOSURE ACTIONS

Based on analytical results discussed in Section 4, closure actions were required at Buildings 543 and 544 to satisfy the MEDEP hazardous waste closure requirements. The closure actions were designed to meet the metals-contaminated settled dust clearance values. Closure actions were conducted at Buildings 543 and 544 in March 2011, as discussed below.

Tetra Tech's cleaning subcontractor, TK&K Services (TK&K), performed floor- and wall-cleaning activities at Buildings 543 and 544 on March 4, 2011. Prior to cleaning, wall openings were covered and sealed with polyethylene sheeting. The floor was then manually swept and then vacuumed with a high-efficiency particulate air (HEPA) vacuum. After sweeping and vacuuming, floors were sprayed with a 2-percent, lead-specific detergent solution with a degreaser, and were scrubbed and washed using a 2,500-pounds-per-square-inch (psi), hot-water pressure-washer. All cleaning wastewater was containerized using a wet-vacuum, placed in six 55-gallon drums, and transferred to the NAS Brunswick hazardous waste department for disposal. Upon completion, the Tetra Tech field representative performed a visual inspection of the cleaned areas.

On March 7, 2011, at each of the two buildings, four post-cleaning, confirmatory floor-wipe samples (and one duplicate) and two wall-wipe samples were collected, totaling eight floor-wipe samples (and two duplicates) and four wall-wipe samples in all (Figure 4). Wipe samples were collected for RCRA 8 metals analysis, using cotton gauze saturated with deionized water. A 10-centimeter (cm) by 10-cm sampling area was wiped with the cotton gauze while applying moderate pressure. Wipe samples were submitted for analysis by Tetra Tech's subcontracted analytical laboratory, Katahdin Analytical Services (Katahdin). The resulting analytical data underwent limited data validation consisting of field duplicate evaluation, blank contamination evaluation, and completeness evaluation. The post-cleaning wipe sample results for Building 543 are shown in Table 2, and post-cleaning wipe sample results for Building 544 are presented in Table 3.

As shown in Tables 2 and 3, metals were not detected at levels exceeding the associated MEDEP-accepted clearance values for floors or walls in the post-cleaning, confirmatory wipe samples.

7. OTHER ENVIRONMENTAL CONSIDERATIONS

No transformers, O/W separators, USTs or ASTs are known to exist in the immediate vicinity of Buildings 543 or 544 and none were observed.

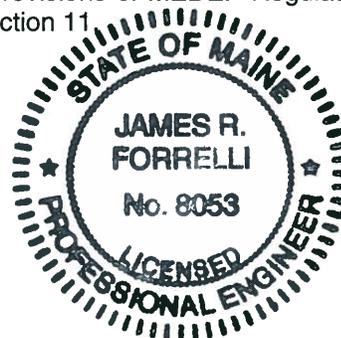
8. LIMITATIONS

This investigation of the hazardous waste closure requirement applies to the footprints of Buildings 543 and 544 (as shown on Figure 2), only. It does not apply to the land surrounding or the groundwater underlying Buildings 543 and 544.

9. CERTIFICATION

Based on the findings of the investigation as presented in this Partial Closure Report, historical operations resulted in the generation of metals-contaminated dust at Buildings 543 and 544, NAS Brunswick, Maine. Closure actions were conducted to remove metals-contaminated dust to levels meeting MEDEP-accepted criteria or clearance values for contaminated, settled-dust surfaces, applicable for these RCRA Partial Closure activities. Therefore, the hazardous waste closure of Buildings 543 and 544 was completed in accordance with the provisions of MEDEP Regulations Chapter 851, Standards for Generators of Hazardous Waste, Section 11


James Forrelli, P.E.
Senior Project Engineer
Tetra Tech NUS, Inc.



⁽¹⁾ The Building Inspection Form provides preliminary information collected during the building inspection, including information from visual observations, Navy personnel interviews, and from documents reviewed during file reviews. It does reflect any additional information provided at a later date that further clarifies or corrects preliminary information collected during the building inspection and file reviews.

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TABLE 1
PRE-CLEANING WIPE SAMPLE RESULTS - BUILDING 544
RCRA PARTIAL CLOSURE REPORT
BUILDINGS 543 AND 544 – HIGH EXPLOSIVE MAGAZINES
NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE IDENTIFICATION ⁽¹⁾				B544-WP01	B544-WP01 (duplicate)	B544-WP02	B544-WP03	B544-WP03 (duplicate)	B544-WP04	B544-WP05	B544-WP06
LOCATION				floor – southeast	floor – southeast	floor – northeast	floor – southwest	floor – southwest	floor – northwest	wall – south	wall - north
MATRIX				wipe	wipe	wipe	wipe	wipe	wipe	wipe	wipe
EVENT				pre-cleaning	pre-cleaning	pre-cleaning	pre-cleaning	pre-cleaning	pre-cleaning	pre-cleaning	pre-cleaning
SAMPLE DATE				09/17/10	09/17/10	09/17/10	09/17/10	09/17/10	09/17/10	09/17/10	09/17/10
				Criteria							
				WTC	MEDEP floor	MEDEP wall					
METALS (µg/ft ²)											
arsenic	36	--	--	27	24	27	20	25	27	43	25
barium	10000	--	--	491	295	473	291	578	324	146	125
cadmium	140	--	--	116	207	74	504	290	393	2.3 J	1.5 J
chromium	440	--	--	149	162	125	750	301	1171	274	32
lead	NA	40	250	315	287	380	771	590	617	93	38
mercury	15	--	--	0.10 U	0.11 U	0.10 U	0.03 J	0.02 J	0.05 J	0.05 J	0.19 J
selenium	--	--	--	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	4.3 J	6.5 U	6.5 U
silver	730	--	--	0.92 J	1.3 J	0.83 J	2.1 J	2.0 J	3.2 J	1.1 J	0.84 J

Notes:

(1) Sample prefix (NASB) not shown

Wipe sample surface area: 10 centimeters (cm) by 10 cm

Shading indicates criterion exceeded

WTC Source: Table A-3 Settled Dust Screening Values and Supporting Toxicity Criteria from World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concern and Setting Health-Based Benchmarks, May 2003

J estimated result

µg/ft² micrograms per square foot

-- no criteria available

U not detected (with associated detection limit)

TABLE 2
POST-CLEANING WIPE SAMPLE RESULTS - BUILDING 543
RCRA PARTIAL CLOSURE REPORT
BUILDINGS 543 AND 544 – HIGH EXPLOSIVE MAGAZINES
NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE IDENTIFICATION ⁽¹⁾				B543-WP01	B543-WP02	B543-WP03	B543-WP03 (duplicate)	B543-WP04	B543-WP05	B543-WP06
LOCATION				floor – southeast	floor – northeast	floor – southwest	floor – southwest	floor – northwest	wall – south	wall – north
MATRIX				wipe	Wipe	wipe	wipe	wipe	wipe	wipe
EVENT				post-cleaning	post-cleaning	post-cleaning	post-cleaning	post-cleaning	post-cleaning	post-cleaning
SAMPLE DATE				03/07/11	03/07/11	03/07/11	03/07/11	03/07/11	03/07/11	03/07/11
				Criteria						
				WTC	MEDEP floor	MEDEP wall				
METALS (µg/ft²)										
arsenic	36	--	--	0.92 J	4.6 U	4.6 U	4.6 U	1.0 J	4.6 U	4.6 U
barium	10000	--	--	8.6 J	7.9 J	11	7.7 J	10	10	9.3
cadmium	140	--	--	1.7 J	1.4 J	1.9 J	2.2 J	6.7 J	0.93 J	0.84 J
chromium	440	--	--	5.5 J	4.7 J	7.6 J	8.2 J	10 J	5.9 J	5.7 J
lead	NA	40	250	5.9	7.0	9.3	14	10	4.9	8.3
mercury	15	--	--	0.09 U	0.09 U	0.09 U	0.05 J	0.09 U	0.09 U	0.09 U
selenium	--	--	--	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U
silver	730	--	--	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U

Notes:

(1) Sample prefix (NASB) not shown

Wipe sample surface area: 10 centimeters (cm) by 10 cm

WTC Source: Table A-3 Settled Dust Screening Values and Supporting Toxicity Criteria from World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concern and Setting Health-Based Benchmarks, May 2003

J estimated result

µg/ft² micrograms per square foot

-- no criteria available

U not detected (with associated detection limit)

**TABLE 3
POST-CLEANING WIPE SAMPLE RESULTS - BUILDING 544
RCRA PARTIAL CLOSURE REPORT
BUILDING 544 – HIGH EXPLOSIVE MAGAZINE
NAVAL AIR STATION BRUNSWICK, MAINE**

SAMPLE IDENTIFICATION ⁽¹⁾				B544-WP07	B544-WP08	B544-WP09	B544-WP10	B544-WP10 (duplicate)	B544-WP11	B544-WP12
LOCATION				floor – southeast	floor – northeast	floor – southwest	floor – northwest	floor – northwest	wall – south	wall - north
MATRIX				wipe	Wipe	wipe	wipe	wipe	wipe	wipe
EVENT				post-cleaning	post-cleaning	post-cleaning	post-cleaning	post-cleaning	post-cleaning	post-cleaning
SAMPLE DATE				03/07/11	03/07/11	03/07/11	03/07/11	03/07/11	03/07/11	03/07/11
				Criteria						
				WTC	MEDEP floor	MEDEP wall				
METALS ($\mu\text{g}/\text{ft}^2$)										
arsenic	36	--	--	4.6 U	4.6 U	0.74 J				
barium	10000	--	--	10	7.9 J	10	6.7 J	7.0 J	12	12
cadmium	140	--	--	1.9 J	2.0 J	13	2.7 J	2.6 J	1.4 J	1.5 J
chromium	440	--	--	6.5 J	5.7 J	104	17	10 J	8.5 J	5.3 J
lead	NA	40	250	4.2 J	4.8	36	5.6	6.2	8.0	8.5
mercury	15	--	--	0.09 J	0.09 U	0.07 J	0.09 J	0.07 J	0.09 U	0.09 J
selenium	--	--	--	6.5 U	6.5 U	6.5 U				
silver	730	--	--	3.7 U	3.7 U	3.7 U				

Notes:

(1) Sample prefix (NASB) not shown

Wipe sample surface area: 10 centimeters (cm) by 10 cm

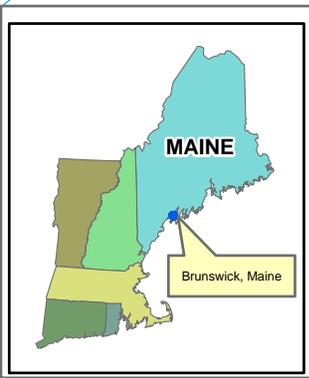
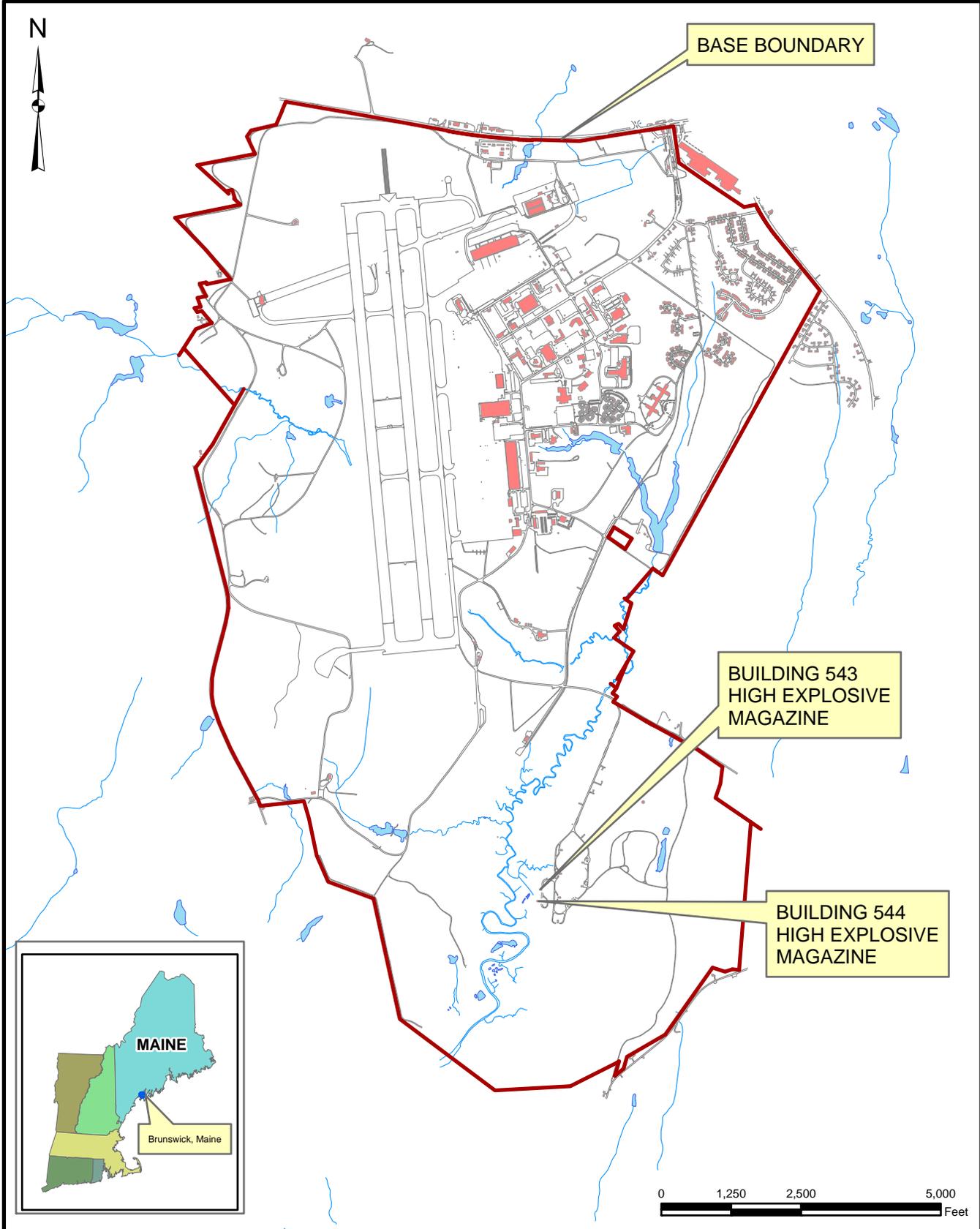
WTC Source: Table A-3 Settled Dust Screening Values and Supporting Toxicity Criteria from World Trade Center Indoor Environment Assessment: Selecting Contaminants of Potential Concern and Setting Health-Based Benchmarks, May 2003

J estimated result

 $\mu\text{g}/\text{ft}^2$ micrograms per square foot

-- no criteria available

U not detected (with associated detection limit)



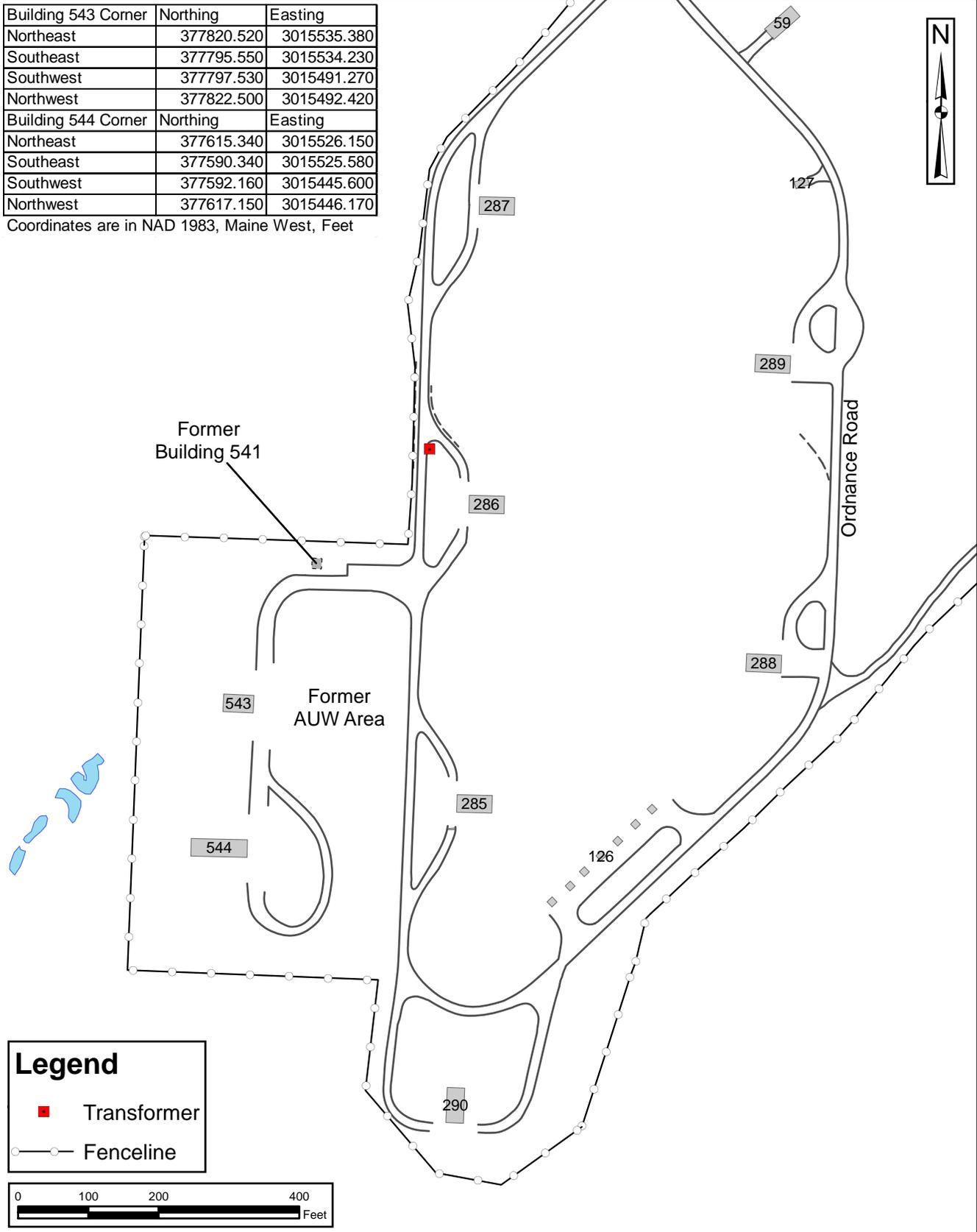
SITE LOCATION MAP
BUILDING 543 - HIGH EXPLOSIVE MAGAZING &
BUILDING 544 - HIGH EXPLOSIVE MAGAZINE
RCRA PARTIAL CLOSURE REPORT
NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\NASB_BLDG_543&544_LOCUS.MXD	
REV 0	DATE 03/23/11
FIGURE NUMBER 1	

I:\0225\CP.DR\NASB_BLDG_543&544_SITE_MAP.MXD DWM\NEC 03/25/11

Building 543 Corner	Northing	Easting
Northeast	377820.520	3015535.380
Southeast	377795.550	3015534.230
Southwest	377797.530	3015491.270
Northwest	377822.500	3015492.420
Building 544 Corner	Northing	Easting
Northeast	377615.340	3015526.150
Southeast	377590.340	3015525.580
Southwest	377592.160	3015445.600
Northwest	377617.150	3015446.170

Coordinates are in NAD 1983, Maine West, Feet

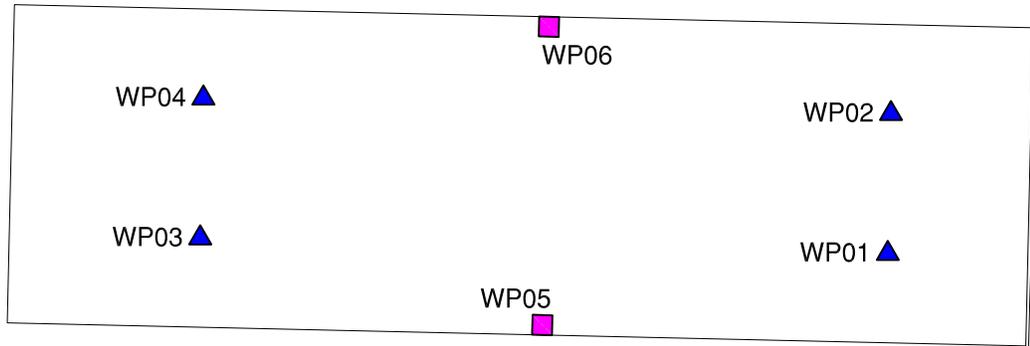


SITE PLAN
BUILDINGS 543 & 544 - HIGH EXPLOSIVE MAGAZINES
RCRA PARTIAL CLOSURE REPORT
NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\NASB_BLDG_543&544_SITE_MAP.MXD	
REV 0	DATE 03/25/11
FIGURE NUMBER 2	



BUILDING 544



LEGEND

- WP01 ▲ FLOOR WIPE SAMPLE LOCATION
- WP05 ■ WALL WIPE SAMPLE LOCATION

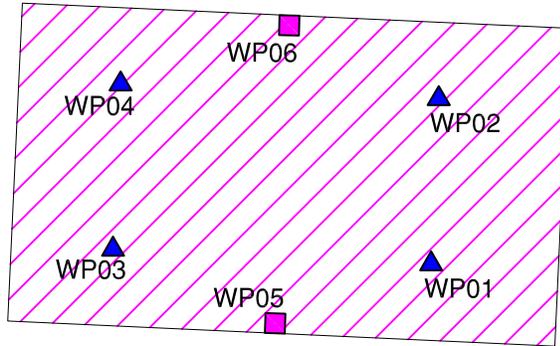


PRE-CLEANING SAMPLE LOCATIONS
 BUILDINGS 543 AND 544 - HIGH EXPLOSIVE MAGAZINES
 RCRA PARTIAL CLOSURE REPORT
 NAVAL AIR STATION BRUNSWICK, MAINE

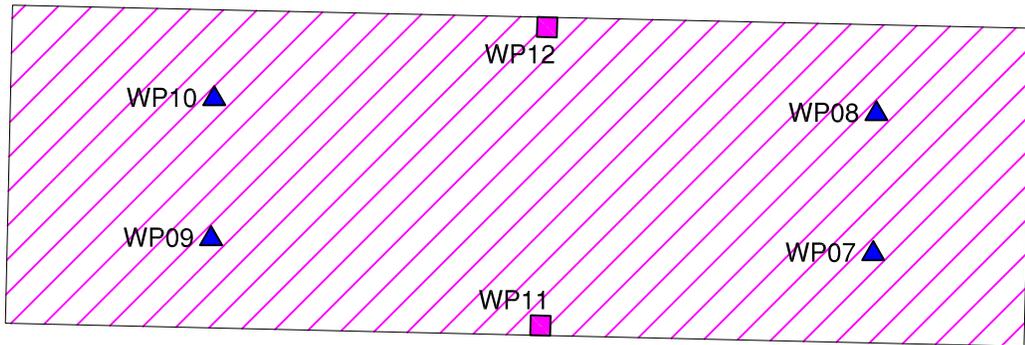
SCALE AS NOTED	
FILE \\.\NASB_BLDG_543&544_PRE.DWG	
REV 0	DATE 3/24/11
FIGURE NUMBER 3	



BUILDING 543



BUILDING 544



LEGEND

WP07 ▲ FLOOR WIPE SAMPLE LOCATION

WP11 ■ WALL WIPE SAMPLE LOCATION

 DECONTAMINATION WORK AREA

GRAPHIC SCALE



TETRA TECH NUS, INC.

POST-CLEANING SAMPLE LOCATIONS
 BUILDINGS 543 AND 544 - HIGH EXPLOSIVE MAGAZINES
 RCRA PARTIAL CLOSURE REPORT
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE
 AS NOTED

FILE
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REV	DATE
0	3/24/11

FIGURE NUMBER
 4

**HWSA INSPECTION FORM
HAZARDOUS WASTE STORAGE AREAS CLOSURE
NAS BRUNSWICK
BRUNSWICK, MAINE
CTO WE22**

Inspection Date: 09/16/10

Personnel: Mark Speer, P.E. / Brandon Smith, P.E.

Weather: Clear, 70s

GENERAL BUILDING INFORMATION / USES

Building Name: High Explosive Magazine

Function: Munitions magazine

Size: 1,232 SF

Year of Construction: 1958

Building 543 is located in the southern portion of NASB Brunswick in the weapons compound on west side of Ordnance Road; and is bordered to the north by the Weapons Area security fence and former Building 541 (AUW sentry house) foundation; to the east by the access road off of Ordnance Road and Ordnance Road and Building 285 (Ammo Storage Facility), beyond, and to the west by the Weapons Area security fence and Merriconeag Stream and marshland, and to the south by Building 544 (High Explosive Magazine) and the Weapons Area security fence, beyond. It was constructed in 1958 and served as a weapons magazine for its entire history. Building 543 consists of a 1,232 square foot concrete-arch roof structure with reinforced concrete end wall on a concrete slab foundation and is covered with earth. The front of the structure is constructed of a reinforced concrete retaining wall fitted with security/blast doors. A reinforced concrete retaining blast wall is located opposite of the security/blast doors.

The building interior consist a single room with approximate dimensions of 43 feet by 25 feet. The building features a ventilation stack through the roof.

Building 543 is not heated.

HWSA INSPECTION / CONDITION

At the time of inspection, Building 543 was in fair condition; the building was empty.

No record of hazardous waste stored at Building 543.

No evidence of current or past hazardous waste generation activities was observed.

No evidence of hazardous waste residues was observed.

No signs of a past release (staining, unusual odors, stressed vegetation, etc.) were observed. No modifications to the structure, which may conceal signs of a past release, were observed.

No hazardous waste storage areas or hazardous waste accumulation areas were observed.

No peeling paint was observed on the steel blast doors.

POTENTIAL PCB-CONTAINING TRANSFORMERS

No transformers are listed in the NASB transformer database for the Building 543.

APPLICABLE REPORTS / DOCUMENTS

Available historical aerial photos and base maps were reviewed for past uses:
1943 Map – Area not shown.
1946 Map – Area not shown.
1952 Map – Area not shown.
1953 aerial – Area is undeveloped woods with Merriconeag Stream to the west.
1956 Map – New Ordnance Area shown to the east of B543/B544 area; Access road to B543/B544 not present and Merriconeag Stream is shown to the west.
1958 Map – B543 and B544 are present in current location with access road off Ordnance Road. Double security fence around entire area.
1958 aerial – B543 and B544 are present in current location with access road off Ordnance Road. Double security fence around entire area.
1959-1972 aerial – Area not shown.
1969 Map – Same as 1958 map; B541 (AUW Sentry House) and B542 (AUW generator shed) shown northeast of B543.
1975 Map – Area not shown.
1978 Map – Same as 1969 map.
1978 aerials – Same as 1958 aerial.
1979 Map – Area not shown.
1980 aerial – Area not shown.
1981 aerial – Same as 1978 aerial.
1983 Map – Area not shown.
1984 aerial – Same as 1981 aerial; double fence has been removed, no fence on eastern side.
1989 Map – B543 and B544 are present. B541 and B542 are not. Single security fence to the north, south, and west only.
1989 aerial – Same as 1984 aerial. B541 and B542 not present. A concrete foundation remaining.
1993 aerial - same as 1989 aerial.
1997 aerial - same as 1993 aerial.
2006 Map – Building 543 and 544 shown in their current locations.

There are no above ground storage tanks (ASTs), underground storage tanks (USTs) or oil-water separators (OWS) registered to Building 543.

HAZARDOUS WASTE STORAGE RECORDS

No hazardous waste was historically stored at Building 543 according to NAS Brunswick Hazardous Waste Manager, D. Bruce Smith.

MISCELLANEOUS NOTES

The Tetra Tech personnel were accompanied on the inspection by D. Bruce Smith, Hazardous Waste Manager.

(SEE ATTACHED PHOTOGRAPHS)

INSPECTOR SIGNATURE: _____ 

**HWSA INSPECTION FORM
HAZARDOUS WASTE STORAGE AREAS CLOSURE
NAS BRUNSWICK
BRUNSWICK, MAINE
CTO WE22**

Inspection Date: 08/12/10

Personnel: Brandon Smith, P.E. / James Forreli, P.E.

Weather: Partly Cloudy, 70s

GENERAL BUILDING INFORMATION / USES

Building Name: High Explosive Magazine

Function: Munitions magazine

Size: 2,252 SF

Year of Construction: 1958

Building 544 is located in the southern portion of NASB Brunswick in the weapons compound on west side of Ordnance Road; and is bordered to the north by Building 543 (High Explosive Magazine) and the Weapons Area security fence and former Building 541 (AUW sentry house) foundation, beyond; to the east by the access road off of Ordnance Road and Ordnance Road and Building 285 (Ammo Storage Facility), beyond, and to the west by the Weapons Area security fence and Merriconeag Stream and marshland, and to the south by the Weapons Area security fence. It was constructed in 1958 and served as a weapons magazine for its entire history. Building 544 consists of a 2,252 square foot concrete-arch roof structure with reinforced concrete end wall on a concrete slab foundation and is covered with earth. The front of the structure is constructed of a reinforced concrete retaining wall fitted with security/blast doors. A reinforced concrete retaining blast wall is located opposite of the security/blast doors.

The building interior consist a single room with approximate dimensions of 80 feet by 25 feet. The building features a ventilation stack through the roof.

Building 544 is not heated.

HWSA INSPECTION / CONDITION

At the time of inspection, Building 544 was in fair condition; the building was empty.

No record of hazardous waste stored at Building 544.

No evidence of current or past hazardous waste generation activities was observed.

No evidence of hazardous waste residues was observed.

Staining were observed on the floor of the rear of the magazine. No modifications to the structure, which may conceal signs of a past release, were observed.

No hazardous waste storage areas or hazardous waste accumulation areas were observed.

No peeling paint was observed on the steel blast doors.

POTENTIAL PCB-CONTAINING TRANSFORMERS

No transformers are listed in the NASB transformer database for the Building 544.

APPLICABLE REPORTS / DOCUMENTS

Available historical aerial photos and base maps were reviewed for past uses:
1943 Map – Area not shown.
1946 Map – Area not shown.
1952 Map – Area not shown.
1953 aerial – Area is undeveloped woods with Merriconeag Stream to the west.
1956 Map – New Ordnance Area shown to the east of B543/B544 area; Access road to B543/B544 not present and Merriconeag Steam is shown to the west.
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1981 aerial – Same is 1978 aerial.
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1984 aerial – Same as 1981 aerial; double fence has been removed, no fence on eastern side.
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HAZARDOUS WASTE STORAGE RECORDS

No hazardous waste was historically stored at Building 544 according to NAS Brunswick Hazardous Waste Manager, D. Bruce Smith.

MISCELLANEOUS NOTES

The Tetra Tech personnel were accompanied on the inspection by D. Bruce Smith, Hazardous Waste Manager.

(SEE ATTACHED PHOTOGRAPHS)

INSPECTOR SIGNATURE: _____ 

PHOTOGRAPHS



No. 1 Building 543 – High Explosive Magazine, NAS Brunswick
Building 543 northeastern elevation

September 16, 2010



No. 2 Building 543 – High Explosive Magazine, NAS Brunswick
Building 543 interior (pre-cleaning).

September 16, 2010



No. 3 Building 543 – High Explosive Magazine, NAS Brunswick
Building 543 interior (post-cleaning).

March 7, 2011



No. 4 Building 544 – High Explosive Magazine, NAS Brunswick
Building 544 northeastern elevation.

August 12, 2010



No. 5 Building 544 – High Explosive Magazine, NAS Brunswick
Building 544 interior (pre-cleaning).

August 12, 2010



No. 6 Building 544 – High Explosive Magazine, NAS Brunswick
Building 544 interior (post-cleaning).

March 7, 2011