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FINAL RESOURCE CONSERVATION AND RECOVERY ACT PARTIAL CLOSURE REPORT  
FOR BUILDING 81 WITH TRANSMITTAL LETTER NAS BRUNSWICK ME  
12/1/2010  
NAS BRUNSWICK

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

December 1, 2010

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

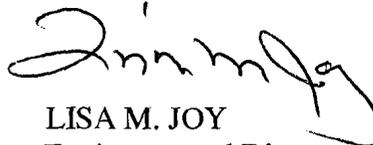
Subj: Final RCRA Partial Closure Report for Building 81

Dear Mr. Vigneault:

A copy of the Final RCRA Partial Closure Report for Building 81 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](mailto:michael.fagan1@navy.mil).

Sincerely,



LISA M. JOY  
Environmental Director

Enclosure: (1) Final RCRA Partial Closure Report for Building 81

Copy to:  
NAVFAC Mid-Atlantic (B. Abraham)  
NAS Brunswick (M. Fagan/D. Smith)  
EPA Region I (M. Daly)  
MRRA (V. Boundy)  
Curtis Memorial Library (L. Oliver)  
Lepage Environmental (C. Lepage)  
BRAC PMO NE (P. Burgio)

**RCRA PARTIAL CLOSURE REPORT**  
for  
**BUILDING 81 – CHRIMP FACILITY PARCEL**  
**NAVAL AIR STATION BRUNSWICK, MAINE**  
**USEPA IDENTIFICATION NUMBER ME8170022018**  
**NOVEMBER 2010**

## **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) Resource Conservation and Recovery Act (RCRA) or hazardous waste closure requirements have been completed for the Building 81 parcel at Naval Air Station Brunswick (NAS Brunswick).

## **2. PROPERTY DESCRIPTION**

The Building 81 parcel is located in the south-central portion of NAS Brunswick (Figure 1). The approximately 0.9-acre parcel is bordered to the north by the Building 29 (Hobby Shop) parcel and Neptune Drive beyond; to the east by the former Building 52 foundation, and to the southeast by Buildings 51 (Fire Prevention/Naval Criminal Investigative Service) and 55 (Base Security); to the south by the access roadway shared by Buildings 51, 55 and 81; and to the west by Orion Street and the Hangar 5 parcel (Figure 2).

The parcel contains Building 81, known as the Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) Facility, adjacent grass- and tree-covered areas, and an asphalt-paved parking area to the east. The surface topography is relatively flat; the land slopes gradually to the northeast toward the Upper Impoundment Pond. From the western portion of the parcel along Orion Street to the east and northeast portions of the parcel, the difference in elevation is only approximately 3 feet.

Building 81 is approximately 7,000 square feet in area. It is a one-story, metal-sided, steel-framed structure on a concrete slab on-grade, with a strip-footing foundation. The original building, the south section, was constructed in 1980, with the northern section added in 1997. The building served as the NAS Brunswick hazardous materials storage and dispensing facility and is comprised of heated- and cold-storage spaces and a smaller office space (Figure 3). The heated storage space is located in the southern portion of the building and contains rows of steel storage shelving. This space is heated by two natural-gas-fired boilers which provide hot water to ceiling-mounted diffusers. Also located in the southern portion of the building are a small office area and a small sprinkler-system room. Electric baseboard heaters provide heat in the office area. The cold-storage (unheated) area and a boiler room are located in the northern portion of the building. The floor of the northern portion is pitched to the center where a metal grate-covered, concrete sump with no outlet is located. Sump dimensions are 18 inches square by 12 inches deep. Photographs of the Building 81 exterior and interior are provided in an attachment.

Until it was recently relocated to another Navy facility, a flammable locker used for the storage of paints and stains was located to the east of Building 81. The locker was a 158-square-foot, one-story, metal structure. Its construction date was April 1995; however, its arrival date at NAS Brunswick is unknown.

## **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 the Building 81 parcel, including past use and operations at that location.

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. Public Works Department (PWD) site base maps dated 1943, 1946, 1952, 1956, 1975, 1979, 1989, and 2006 (PWD, 1943, 1946, 1952, 1956, 1975, 1989, and 2006) and site building lists for 1965, 1976, 2003, and 2008 (PWD, 1965, 1976, 2003, and 2008) were also reviewed.

The 1943 through 1978 historical maps and aerial photographs show the current location of Building 81 as vacant land. The 1979 map shows the southern half of Building 81 in its current location, east of Orion Street and west of Building 52. The 1989 map shows Building 29 located north of Building 81. The 1997 aerial photograph of the location shows an addition to Building 81 under construction on the north side, after which the current footprint of the building was completed. On the 2003 building list, Building 81 is noted as the CHRIMP Facility and Building 52 is not listed. On the 2006 map, Building 52 and the flammable locker adjacent to Building 81 are not present; Buildings 51 and 55 are shown in their current footprints, southeast of Building 81. The building identification number 52 was reissued to another air station structure on the 2008 building list, although the concrete foundation of the former Building 52 remains.

According to NAS Brunswick Environmental Department personnel, after its initial construction, Building 81 was used as a weapons storage facility, and most recently served as the CHRIMP Facility.

The 1983 Initial Assessment Study (IAS), Table 6-10, Weapons and Ordnance Stored at the Brunswick Naval Air Station, lists the use of Building 81 as an inert storehouse, but does not provide any specific information as to what items were stored at the building (NEESA, 1983).

In a telephone interview, a Navy Weapons Chief who had served at NAS Brunswick for the past 17 years provided details regarding the former use of Building 81 as a weapons building. He stated that the weapons group used Building 81 for training purposes prior to it becoming the CHRIMP Facility in 1995. As part of this training function, inert ordnance training mockups placed on bomb carts were stored in the building. He confirmed that Building 81 was not rated for storage of any explosives, fuses, or detonators (Smith, 2010).

The CHRIMP oversaw the use, supply, and collection of all hazardous materials used by the squadrons and maintenance organizations at NAS Brunswick, including materials such as petroleum products, cleaning solvents, and various paints and coatings. This centralized, hazardous materials program thereby controlled hazardous materials acquisition and inventory, reducing the generation and disposal of hazardous waste. Hazardous materials were signed-out from the CHRIMP Facility (Building 81) in small quantities (typically less than a week's supply), with unused and excess quantities also returned to the CHRIMP in Building 81. Expired and unserviceable hazardous materials were also returned to the CHRIMP for disposal as hazardous waste including spent batteries, used and empty aerosol cans, and paint waste.

NAS Brunswick has a program in place that tracks hazardous waste to ensure proper handling and disposal. According to NAS Brunswick Hazardous Waste Manager, D. Bruce Smith, hazardous waste generation was tracked by squadron and/or activity (department). Table 1 lists the quantities of hazardous waste generated by the CHRIMP in Building 81, based on available records.

The Building 81 fire-suppression system features aqueous-film-forming foam (AFFF) dispensed from nozzles located in the ceiling and the shelving racks of the south (heated) storage area, and in the ceiling of the north (cold) storage area. The system is activated by heat sensors located throughout both storage areas. AFFF is water-based and frequently contains smaller quantities (less than 1 percent) of hydrocarbon-based surfactants, such as sodium alkyl sulfate, fluorosurfactants, ethylene glycol, and urea. AFFF and its constituents are not classified as

hazardous waste under RCRA. The two 450-gallon-capacity, aboveground, AFFF storage tanks are located in the sprinkler-system room in the southwest portion of the building (Figure 3). According to NAS Brunswick Environmental Department personnel, the AFFF material was removed on November 15, 2010 for reuse at Hangar 5.

The NAS Brunswick transformer database lists three current utility-pole-mounted transformers and three previous utility-pole-mounted transformers for Building 81 (PWD, 2009). (During the site visit, three utility-pole-mounted transformers were observed at the southwest corner of the parcel, immediately adjacent to Orion Street, as discussed below in Section 4.) According to the database, the three previous transformers were stated to be 50-kVA transformers with serial numbers 2643-2-2, 2643-2-3, and 2643-2-23, and were removed on May 28, 1993 for disposal (manifest number MEA083144). The insulating fluid of the three previous 50-kVA transformers reportedly had polychlorinated biphenyls (PCB) concentrations of 66 parts per million (ppm), 66 ppm, and 73 ppm, respectively. Also according to the database, the three current transformers are rated at 50 kVA and were manufactured in 1992 by Cooper-RTE (Rural Transformer & Electric), with serial numbers 921115696, 921115697, and 921115698. The first two digits of the Cooper-RTE transformer serial numbers indicate they were manufactured in 1992; therefore, they are unlikely to contain PCB. As of July 1, 1979, the United States Environmental Protection Agency (EPA) prohibited all manufacturing of new PCB electrical equipment (transformers and capacitors). In addition, according to an electrical utility guide for identifying non-PCB transformers, all Cooper and RTE transformers are non-PCB-containing (DTM, 2006).

According to the NAS Brunswick Master/Historical Aboveground and Underground Storage Tank Inventory, one inactive, 2,500-gallon, aboveground storage tank (AST) is located at the Building 81 parcel, and previously stored No. 1 heating oil. The AST was installed in 1999 and was closed on April 15, 2009 (Environmental Department, 2009). The Inventory does not list any underground storage tanks (USTs) for Building 81 (Environmental Department, 2009).

According to the NAS Brunswick spill records, a sulfuric acid spill was noted at Building 81 on October 29, 2004; the spill was reportedly less than 1 unit of an undisclosed volume or weight. The NAS Brunswick records do not indicate if the MEDEP was notified of the release. No other releases were identified on the NAS Brunswick or MEDEP spill records for the Building 81 parcel (MEDEP, 2010).

The NAS Brunswick Revised Oil/Water Separator List indicates no oil/water separators for Building 81 (PWD, 2008b).

The northern portion of the Building 81 parcel is located within the former pre-1950 NAS Brunswick Skeet Range, however the likely shot-fall zone is located east of the parcel. The range is being investigated under the Military Munitions Response Program (MMRP). This investigation includes analysis of soil samples collected from abutting and adjacent parcels east of the Building 81 parcel. Any adverse impacts to the parcel resulting from past range activities will be addressed by future MMRP investigations and/or remedial actions.

No groundwater investigations have been conducted on the Building 81 parcel; therefore, groundwater characterization information for the parcel is not available. Information on known NAS Brunswick groundwater contamination areas was reviewed to determine if groundwater underlying the Building 81 parcel could potentially be impacted by another (off-parcel) source. The southern boundary of Installation Restoration Program (IRP) Site 9 (Neptune Drive Disposal Site) is approximately 150 feet northeast of Building 81, and crosses through the Building 79 and Building 52 parcels (Figure 2). A groundwater monitoring well, MW-09-001, associated with the Site 9 investigation, is located immediately north of the Building 81 parcel boundary and adjacent to the Building 79 (Hobby Shop Storage) fence line.

The Draft Site 9 Monitoring Event 34 Report April 2009, dated August 2009 (H&S, 2009), indicates that volatile organic compounds (VOCs) detected in groundwater from MW-09-001 included cis-1,2-dichloroethene (cis-1,2-DCE) and trichloroethylene (TCE), and totaled 6.9 micrograms per liter ( $\mu\text{g/L}$ ). All concentrations of VOCs were below the Federal Maximum Contaminant Levels (MCLs) and State Maximum Exposure Guidelines (MEGs). During the prior Monitoring Event 33, the total VOCs concentration from this well was 6.38  $\mu\text{g/L}$ , with no exceedances of Federal MCLs or State MEGs. However, sodium was detected at 21,200  $\mu\text{g/L}$ , which is above the State MEG of 20,000  $\mu\text{g/L}$ . Sodium analysis was discontinued after Event 33. The depth to groundwater reported at MW-09-001 in April 2009 was 8.49 feet, measured from the top of the PVC well riser pipe (47 feet above Mean Sea Level [MSL]). The groundwater flow direction in the vicinity of well MW-09-001 was estimated to be toward the southeast, directly toward the Upper Impoundment Pond.

Groundwater underlying the Building 201 parcel, located northeast of Building 81 and beyond the former Building 52, has been impacted by the migration of contaminated groundwater from the upgradient IRP Site 9 source area (groundwater flow is in a south-southeast direction from the Site 9 landfill/source area). Part of the selected remedial action for Site 9 groundwater contamination includes natural attenuation and long-term monitoring (LTM). The LTM program was initiated in March 1995 and is ongoing, including the monitoring of locations on the Building 201 parcel, in accordance with the final Site 9 ROD (U.S. Navy, 1999). Long-term protectiveness of the remedy will be verified by continued monitoring, in accordance with the LTM program (Tetra Tech, 2010b). Any additional action that may be needed in the future to address potential future adverse impacts to the Building 81 parcel, resulting from Site 9, will be addressed as part of the IRP.

#### 4. SITE VISIT AND INVESTIGATION

Two site visits were conducted, as follows: August 12, 2010, by Mr. Brian Geringer and Mr. Mark K. Speer, P.E., of Tetra Tech; and September 16, 2010, by Mr. Geringer, Mr. Speer, 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 RCRA Partial Closure Report. Tetra Tech personnel were accompanied by Mr. D. Bruce Smith, the NAS Brunswick Hazardous Waste Manager. The interior and exterior of Building 81 were observed during the site visits. The Building 81 parcel was visually inspected for signs of hazardous waste generation or storage activity. Site visit observations, recorded on the attached Building Inspection Form <sup>(1)</sup>, are summarized below:

- Building 81 was vacant at the time of the site visit and appeared in good condition.
- No odors were detected in Building 81.
- An area of white-colored staining of the concrete floor was observed immediately east of the boiler room, in the cold-storage (north) portion of the building. NAS Brunswick personnel recalled the spill of a fork-lift battery within Building 81, which correlates with the NAS Brunswick spill report discussed in Section 3. No other signs of a past release (staining, unusual odors, stressed vegetation, etc.) nor structural modifications that could conceal signs of a past release were observed.
- No hazardous waste storage was observed.
- The AFFF system appeared to be in good condition with no observed leaks or stains.
- Three utility-pole-mounted transformers were identified at the southwest corner of the Building 81 parcel, adjacent to Orion Street. No evidence of a past leak from these transformers was observed.
- One closed 2,500-gallon AST (No. A81.0) was identified on the east side of Building 81, immediately north of the flammable locker. The tank appeared to be in good condition and no evidence of a past leak from this AST was observed.
- Vinyl floor tiling observed throughout the office area of the facility appeared to be in good condition. The exposed 12-inch by 12-inch floor tiling is not anticipated to be potentially

- asbestos-containing material (PACM), based on the age of the building; however, the tile mastic may be PACM. The tile mastic was not observed.
- The flammable locker was vacant on the August 12, 2010 site visit, with no visible staining or residue observed. The flammable locker was transferred to an out-of-state Navy facility on September 16, 2010.
  - A groundwater monitoring well was observed off-parcel, to the northeast of Building 81 and adjacent to the Building 79 (Hobby Shop Storage) fence line. The well is identified as MW-09-001 and has an above-ground protective casing. (This well and associated groundwater monitoring is discussed in Section 3.)

Based on the site visit observations and records research findings, samples were collected at Building 81 to investigate the potential presence of hazardous waste residue as a result of the previous storage and handling of hazardous material and waste. Samples were also collected in the area of the previous pole-mounted electrical transformers which reportedly contained PCB-contaminated oil. The investigation sample results are discussed below.

### Residue Investigation

On September 2 and October 14, 2010, Tetra Tech collected wipe samples from eleven locations within the heated-storage (south) and cold-storage (north) areas of Building 81 (Figure 3). One floor wipe sample (WP01) was collected from the “white-discolored” area. Six additional wipe samples were collected from the storage area floors, and four wipe samples were collected from the storage area walls.

All eleven wipe samples were submitted for RCRA metals analysis by Tetra Tech’s subcontracted analytical laboratory (Analytics Environmental Laboratory [Analytics], Portsmouth, New Hampshire). The resulting analytical data underwent limited data validation, including blank contamination evaluation and completeness evaluation. Analytical results for these Building 81 investigation wipe samples are presented in Table 2. Results for lead 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 MEDEP criteria for the other seven RCRA metals. For informational purposes, wipe sample results for six of the other seven metals were compared to World Trade Center Settled Dust Screening Values (WTC, 2003). There is no WTC screening value for selenium.

In several floor-wipe samples, lead was detected at levels ranging from 40 to 94  $\mu\text{g}/\text{ft}^2$ , exceeding the MEDEP lead criterion for floors (40  $\mu\text{g}/\text{ft}^2$ ). In sample B81-WP01, collected from the area of the lead-based-battery release, lead was detected at 15  $\mu\text{g}/\text{ft}^2$ , less than the MEDEP lead criterion, indicating no significant residual impacts from the battery release. As shown in Table 2, all levels of other detected metals are below the screening values. Based on the analytical results, cleaning of the floor in the Building 81 storage areas was required to remove lead-contaminated residue exceeding the associated MEDEP criterion for dust on floors.

### Electrical Transformer Investigation

Based on the NAS Brunswick transformer database, the historical pole-mounted transformers contained PCB-contaminated oil. To evaluate if there was an historical PCB release, four surface soil samples were collected from two locations at the base of the utility pole on November 16, 2010 (Figure 3). At both locations, a hand auger was used to collect two samples, one sample from 0 to 6 inches below ground surface (bgs) and one from 6 to 24 inches bgs. The sample locations were below the transformers, to the southeast and northeast of the utility pole.

The soil samples were submitted for PCB analysis by Tetra Tech's subcontracted analytical laboratory, Analytics, and the resulting analytical data underwent limited data validation. As presented in Table 3, PCBs were not detected in any of the soil samples.

Based on the available information regarding historical activities at the Building 81 parcel, there is no evidence that groundwater underlying the parcel has been adversely impacted by a release from within the parcel. As stated above in Section 3, groundwater underlying the Building 201 parcel located to the northeast of Building 81 has been previously impacted by contaminated groundwater from the upgradient IRP Site 9 source area. If any additional remedial action is needed in the future to address potential groundwater contamination in this area, it would be addressed under the IRP.

## 5. HAZARDOUS WASTE GENERATION AND STORAGE

The records research, site visit observations, NAS Brunswick Environmental Department personnel interviews, and investigation results document that hazardous waste generated by squadrons and by other activities was received by the CHRIMP and was temporarily stored at Building 81. As discussed in Section 3.0, these materials were tracked by the NAS Brunswick hazardous waste program to ensure proper handling and disposal. According to NAS Brunswick personnel, hazardous waste stored at Building 81 included excess, expired, and unserviceable materials, such as solvents, cleaners, paint material, and batteries. Investigation samples revealed that lead levels in surface residues within Building 81 exceeded applicable criterion, and that remedial action was required to comply with closure requirements.

## 6. CLOSURE ACTIONS

Tetra Tech's cleaning subcontractor (Global Remediation Services [Global]) performed floor and sump cleaning activities at Building 81 on October 26 and 27, 2010. The floor and sump was first manually swept and then vacuumed with a high-efficiency particulate air (HEPA) vacuum. After sweeping and vacuuming, floors and sump were sprayed with a 2-percent, lead-specific detergent solution, scrubbed, and pressure-washed, using a 5,000-pounds-per-square-inch (psi) steam-cleaner. All cleaning wastewater was containerized using a wet-vacuum, placed in three 55-gallon drums, and transferred to the NAS Brunswick hazardous waste department for storage pending disposal. Upon completion, the Tetra Tech field representative performed a visual inspection of the cleaned area.

Following the cleaning activities, on October 28, 2010, seven confirmatory wipe samples were collected from the dried floor for lead analysis by Analytics (Figure 4). As presented in Table 4, lead levels in all seven samples were less than the MEDEP floor lead criterion (40  $\mu\text{g}/\text{ft}^2$ ).

The sump walls and bottom were cleaned to a visibly clean condition. One confirmatory wipe sample was collected from the sump wall for RCRA metals analysis by Analytics (Figure 4). As this location is not readily accessible by workers, the sump wipe sample lead level was compared against the MEDEP wall criterion (250  $\mu\text{g}/\text{ft}^2$ ) for informational purposes. As shown in Table 4, the lead level did not exceed the MEDEP wall lead criterion, and levels of six other metals did not exceed the available WTC screening values.

## 7. OTHER ENVIRONMENTAL CONSIDERATIONS

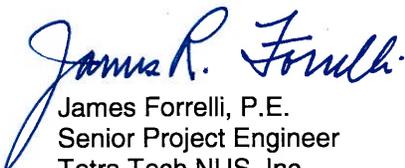
No additional transformers or ASTs were observed in the immediate vicinity of the building. There are no USTs known to be associated with the Building 81 parcel, and none were observed in the vicinity.

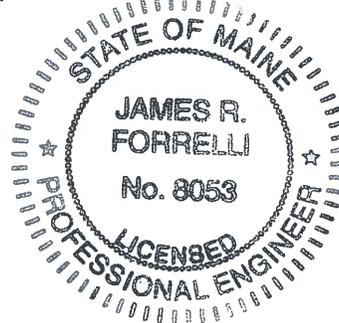
## 8. LIMITATIONS

This investigation of the hazardous waste closure requirement applies to the Building 81 parcel (as shown on Figure 2) only.

## 9. CERTIFICATION

Historical operations resulted in the accumulation and storage of hazardous waste at the Building 81 parcel, NAS Brunswick, Maine. Based on the findings of the investigation as presented in this Partial Closure Report, the hazardous waste closure of the Building 81 parcel 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.



<sup>(1)</sup> 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 not 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**  
**HAZARDOUS WASTE QUANTITIES (2005 THROUGH 2009)**  
**RCRA PARTIAL CLOSURE REPORT**  
**BUILDING 81 – CHRIMP FACILITY PARCEL**  
**NAVAL AIR STATION BRUNSWICK, MAINE**

Description	Quantity (pounds)
acetylene bottles	141
acid	475.2
adhesive	1,465.8
aerosol	1,341.1
aerosol empty	45.8
alcohol	81
Alodine <sup>(1)</sup>	44.1
ammonium hydroxide	6
aircraft cleaning compound	211.1
batteries, air craft	16
batteries, lead acid for recycling	10,468
batteries, mercury	0.2
battery alkaline	4,070
battery lithium	164.7
battery Ni-Cad	208.7
battery Ni-MH	19.4
boric acid	19.4
cadmium solution	3.0
cathode ray tubes (CRTs)	6,645
caustic cleaner	287.7
contaminated oil	5.8
corrosion prevention compound	7.6
degreaser	245.2
flammable liquids, corrosive	24.5
fuel water mix	328.0
glycol	1,046
grease	876.8
lamps, fluorescent	29.9
mercury (broken lamps)	87.0
methanol	15.0
methyl salicylate	1.0
methylene chloride	0.4
paint	9,564
paint aircraft	2,539
paint booth filters	1.3
paint consolidation	138.0
paint rags	11.0
paint stripper	26.1
PCB ballast	23.0
phenolphthalein	1.0
resin	41.2
sealant	548.2
SEM pen <sup>(2)</sup>	36.3
silicone	1.1
sodium dichromate	5.0
sodium hydroxide	220.8
sodium sulfide	1.0
solder	22.0
soldering flux	35.0
solvent (toluene and 1,1,1-TCA)	1,891
sulfuric acid	228.8
tetrabromoethane	4.0
thikol mc-2362	1.0
thiner	100.8
trichloroethylene	65.4
waste oil	62,556
x-ray developer	8.0
x-ray fixer	540.0

(1) chromate conversion coating (applied to slow metal alloy corrosion)

(2) paint pen for aircraft touch-up

**TABLE 2  
PRE-CLEANING WIPE SAMPLE METALS RESULTS  
RCRA PARTIAL CLOSURE REPORT  
BUILDING 81 – CHRIMP FACILITY PARCEL  
NAVAL AIR STATION BRUNSWICK, MAINE**

SAMPLE ID <sup>(1)</sup>				B81-WP01	B81-WP02	B81-WP02 (duplicate)	B81-WP03	B81-WP04	B81-WP05	B81-WP06	B81-WP07	B81-WP08	B81-WP09	B81-WP10	B81-WP11
LOCATION				discolored floor area near boiler room, cold storage area (north), floor	SE corner, south storage area, floor	duplicate sample of B81-WP02	NE corner, south storage area, floor	NW corner, south storage area, floor	SW corner, south storage area, floor	south storage area, east wall	south storage area, west wall	SW corner, north storage area, floor	NW corner, north storage area, floor	north storage area, west wall	north storage area, east wall
MATRIX				wipe	wipe	wipe	wipe	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	pre-cleaning	pre-cleaning	pre-cleaning	pre-cleaning
SAMPLE DATE	WTC	MEDEP floor	MEDEP wall	09/02/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10
<b>METALS (µg/ft<sup>2</sup>)</b>															
arsenic	36	--	--	4.6 U	10	3.8 J	7.8	3.3 J	8.2	1.7 J	1.9 J	4.8 J	13	2.6 J	1.6 J
barium	10000	--	--	35	48	40	130	73	100	28	51	57	140	20	24
cadmium	140	--	--	2.8 UJ	3.6 J	3 J	26	7.4 J	9.3 J	2.8 U	0.28 J	4.9 J	8.4 J	0.19 J	2.8 U
chromium	440	--	--	11 J	35	17	41	22	39	3.7 UJ	6.6 J	44	68	19	30
lead	NA	40	250	15	40	31	94	26	76	1.9 J	2.2 J	58	82	2.9 J	31
mercury	15	--	--	0.0065 J	0.056 J	0.074 J	0.056 J	0.093 UJ	0.093 UJ	0.093 UJ	0.093 UJ	0.093 UJ	0.019 J	0.093 UJ	0.028 J
selenium	--	--	--	3.7 J	6.5 UJ	6.5 U	6.5 UJ	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 UJ	6.5 U	6.5 U
silver	730	--	--	3.7 U	3.2 J	1.4 J	1.6 J	0.83 J	0.93 J	3.7 U	3.7 U	0.56 J	0.83 J	3.7 U	0.46 J

Notes:

(1) Sample prefix "NASB" is not shown

Wipe sample surface area: 10 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/ft<sup>2</sup> micrograms per square foot

-- no criteria available

NA not applicable

U not detected (with associated detection limit)

**TABLE 3  
SOIL SAMPLE PCB RESULTS  
RCRA PARTIAL CLOSURE REPORT  
BUILDING 81 – CHRIMP FACILITY PARCEL  
NAVAL AIR STATION BRUNSWICK, MAINE**

<b>SAMPLE ID<sup>(1)</sup></b>	<b>EPA RSLs<sup>(2)</sup> (µg/kg)</b>	B81-SB01-0006	B81-SB01-0624	B81-SB02-0006	B81-SB02-0624
<b>LOCATION</b>		northeast side transformer utility pole	northeast side transformer utility pole	southeast side transformer utility pole	southeast side transformer utility pole
<b>MATRIX</b>		soil	soil	soil	soil
<b>DEPTH</b>		0-6 inches bgs	6-24 inches bgs	0-6 inches bgs	6-24 inches bgs
<b>SAMPLE DATE</b>		11/16/10	11/16/10	11/16/10	11/16/10
Aroclor-1016	3,900	16.5 U	16.5 U	18 U	18 U
Aroclor-1221	140	16.5 U	16.5 U	18 U	18 U
Aroclor-1232	140	16.5 U	16.5 U	18 U	18 U
Aroclor-1242	220	16.5 U	16.5 U	18 U	18 U
Aroclor-1248	220	16.5 U	16.5 U	18 U	18 U
Aroclor-1254	220	16.5 U	16.5 U	18 U	18 U
Aroclor-1260	220	16.5 U	16.5 U	18 U	18 U
Total PCBs <sup>(3)</sup>	1,000	16.5 U	16.5 U	18 U	18 U

## Notes:

(1) Sample prefix "NASB" is not shown.

(2) EPA Regional Screening Levels [RSLs] for residential soil provided for informational purposes.

(3) MEDEP action limit for PCB spill (1 milligram per kilogram)

(4) Unvalidated data provided

bgs below ground surface

µg/kg micrograms per kilogram

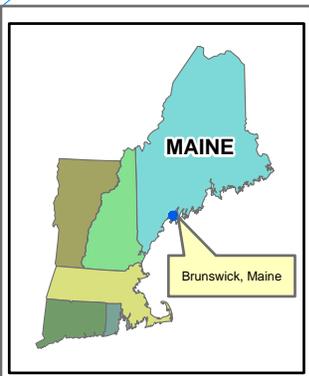
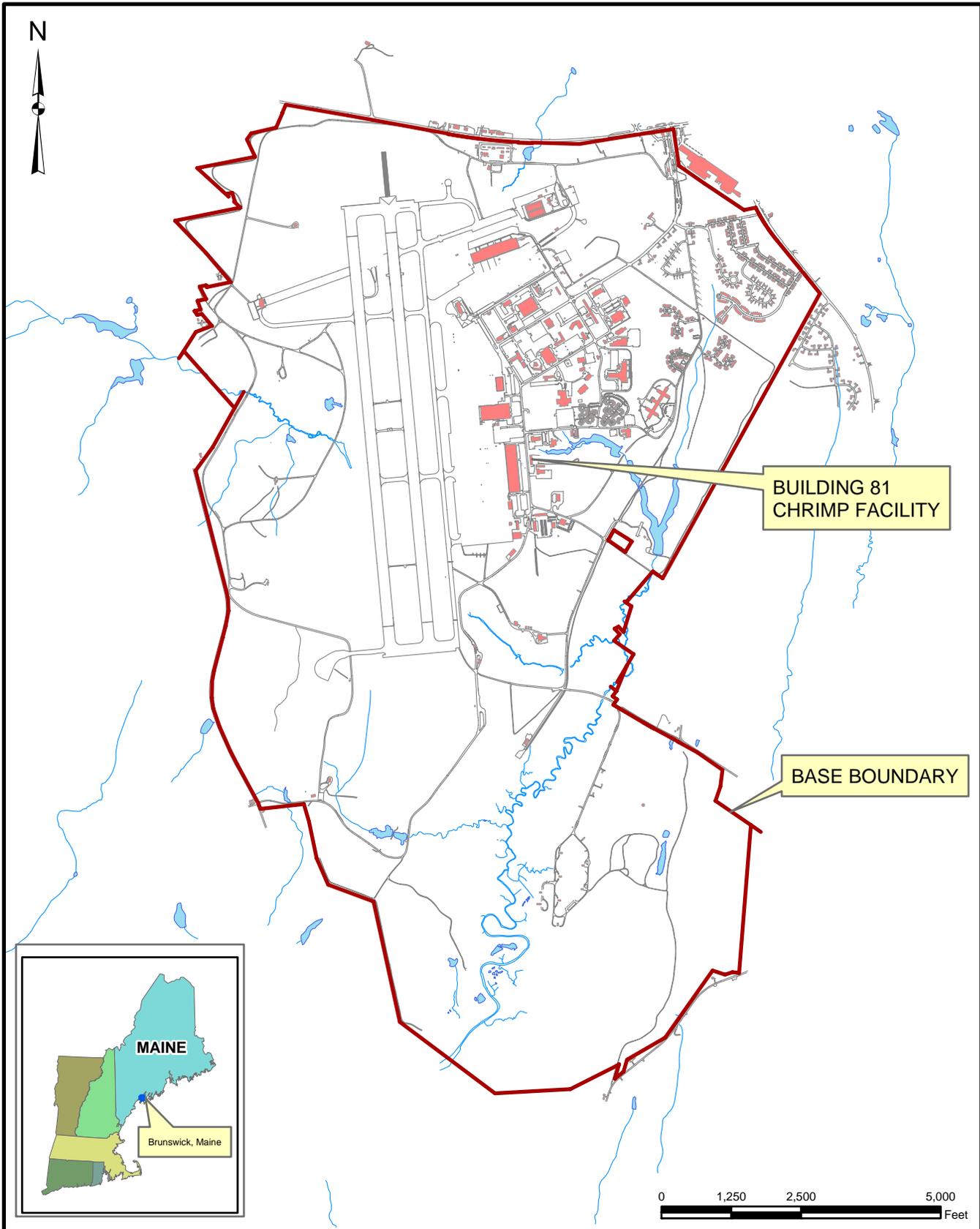
U not detected (with associated detection limit)

PCB polychlorinated biphenyl

**TABLE 4  
POST-CLEANING WIPE SAMPLE LEAD RESULTS  
RCRA PARTIAL CLOSURE REPORT  
BUILDING 81 – CHRIMP FACILITY PARCEL  
NAVAL AIR STATION BRUNSWICK, MAINE**

SAMPLE ID <sup>(1)</sup>	WTC	MEDEP floor	MEDEP wall	B81-WP12	B81-WP13	B81-WP14	B81-WP15	B81-WP16	B81-WP17	B81-WP17 (duplicate)	B81-WP18	B81-WP19 <sup>(2)</sup>
LOCATION				SE corner, south storage area, floor	NE corner, south storage area, floor	NW corner, south storage area, floor	SW corner, south storage area, floor	SW corner, north storage area, floor	NW corner, north storage area, floor	NW corner, north storage area, floor	NE corner, north storage area, floor	north storage area, sump (sidewall)
MATRIX				wipe	wipe							
EVENT				post-cleaning	post-cleaning							
SAMPLE DATE				10/28/10	10/28/10	10/28/10	10/28/10	10/28/10	10/28/10	10/28/10	10/28/10	10/28/10
METALS (µg/ft <sup>2</sup> )												
arsenic	36	--	--	na	6 J							
barium	10000	--	--	na	169							
cadmium	140	--	--	na	17							
chromium	440	--	--	na	51							
lead	NA	40	250	1.9 J	14	3 J	3.8 J	11	9.3	9.1	5.6	152
mercury	15	--	--	na	0.3 J							
selenium	--	--	--	na	6.5 U							
silver	730	--	--	na	1.5 J							

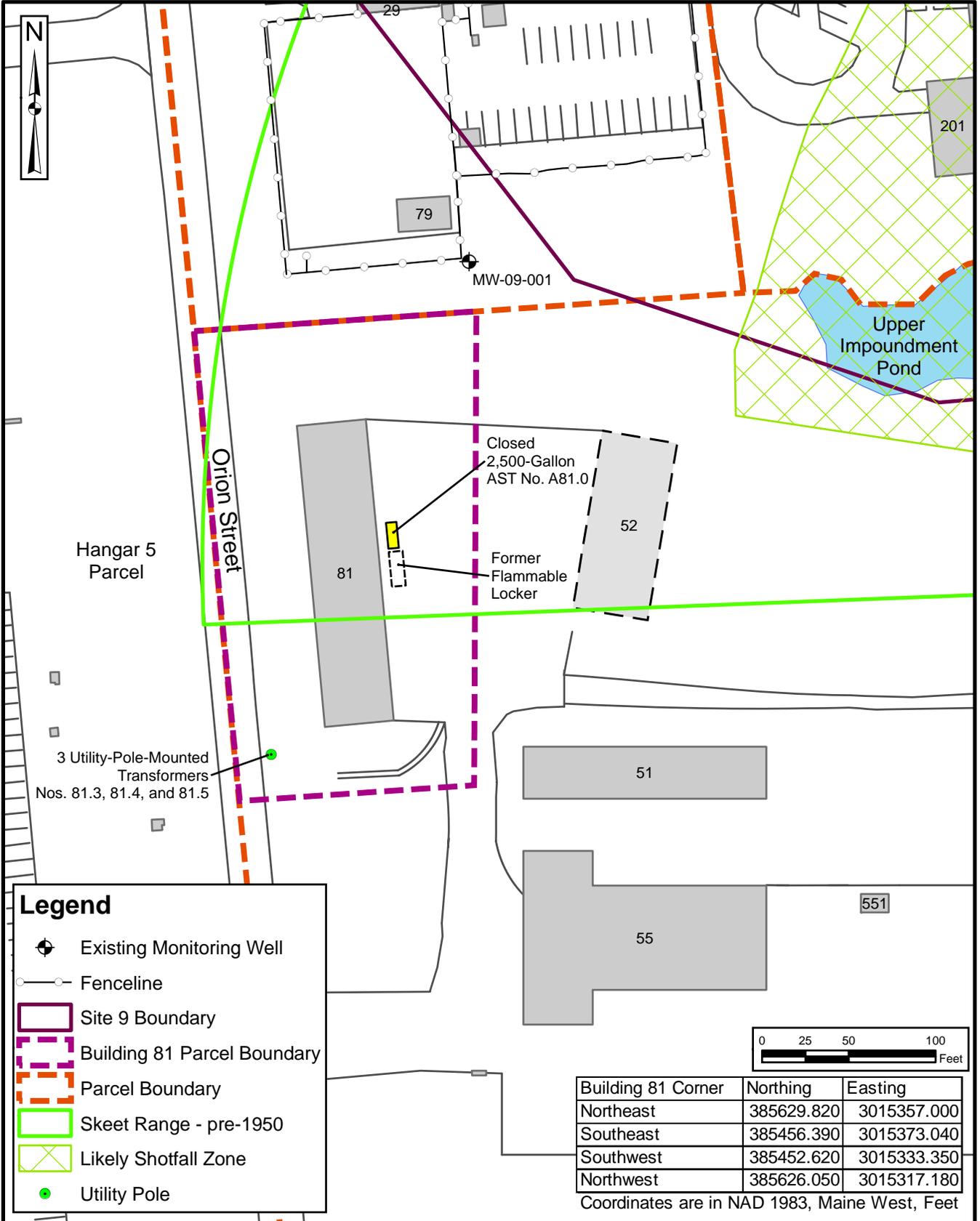
Notes:  
 (1) Sample prefix "NASB" is not shown  
 (2) Unvalidated data provided  
 Wipe sample surface area: 10 cm by 10 cm  
 J estimated result  
 µg/ft<sup>2</sup> micrograms per square foot  
 -- no criteria available  
 na not analyzed  
 NA not applicable  
 U not detected (with associated detection limit)



Tetra Tech NUS, Inc.

SITE LOCATION MAP  
 BUILDING 81 - CHRIMP FACILITY PARCEL  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\NASB_BLDG_81_LOCUS.MXD	
REV 0	DATE 10/04/10
FIGURE NUMBER 1	



**Legend**

- Existing Monitoring Well
- Fenceline
- Site 9 Boundary
- Building 81 Parcel Boundary
- Parcel Boundary
- Skeet Range - pre-1950
- Likely Shotfall Zone
- Utility Pole



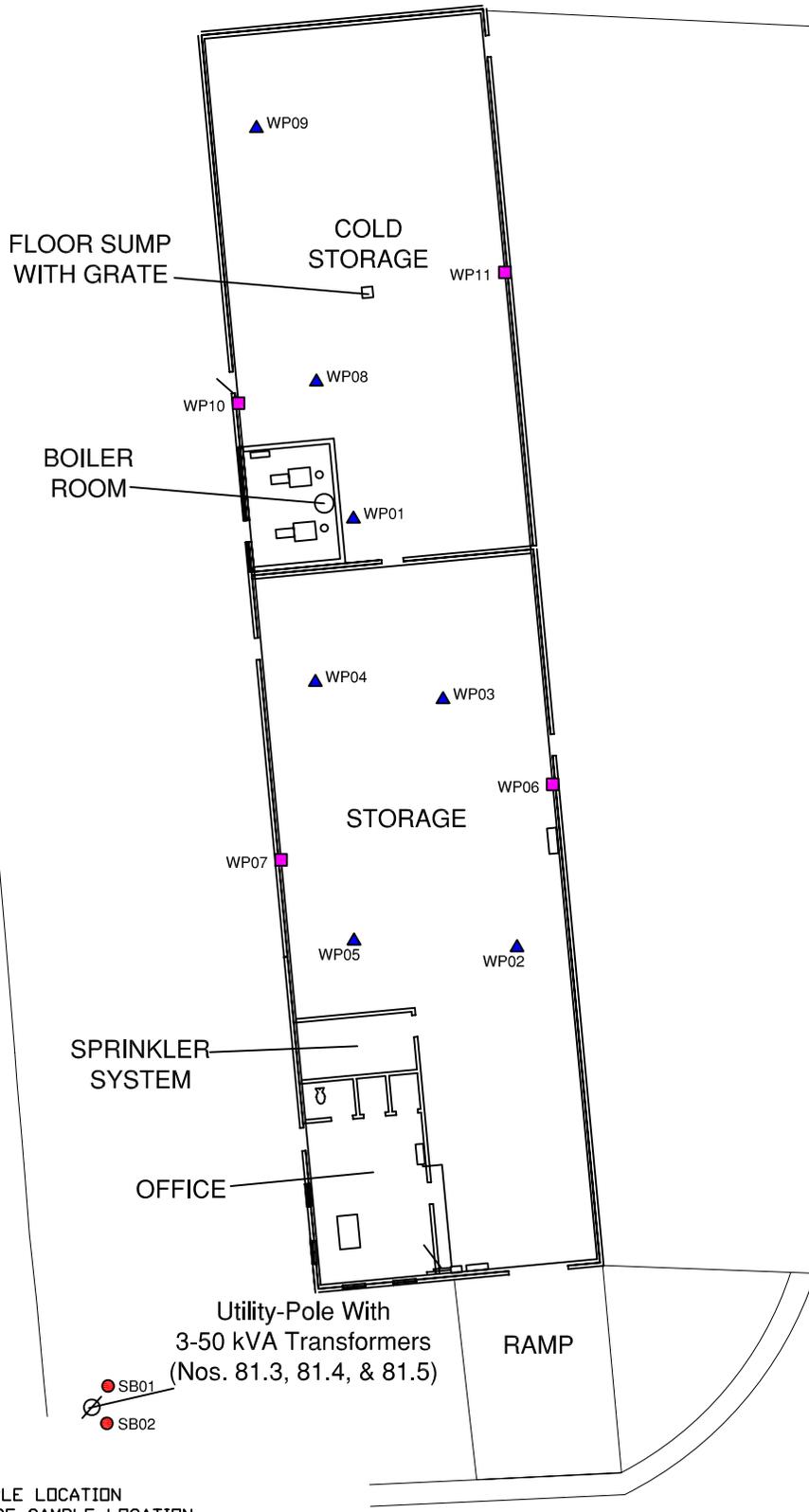
Tetra Tech NUS, Inc.

**SITE MAP**  
 BUILDING 81 - CHRIMP FACILITY PARCEL  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\NASB_BLDG_81_SITE_MAP.MXD	
REV 0	DATE 11/30/10
FIGURE NUMBER FIGURE NO. 2	



ORION STREET



**LEGEND**

- SB01 ● SOIL SAMPLE LOCATION
- WP01 ▲ FLOOR WIPE SAMPLE LOCATION
- WP07 ■ WALL WIPE SAMPLE LOCATION

GRAPHIC SCALE



TETRA TECH NUS, INC.

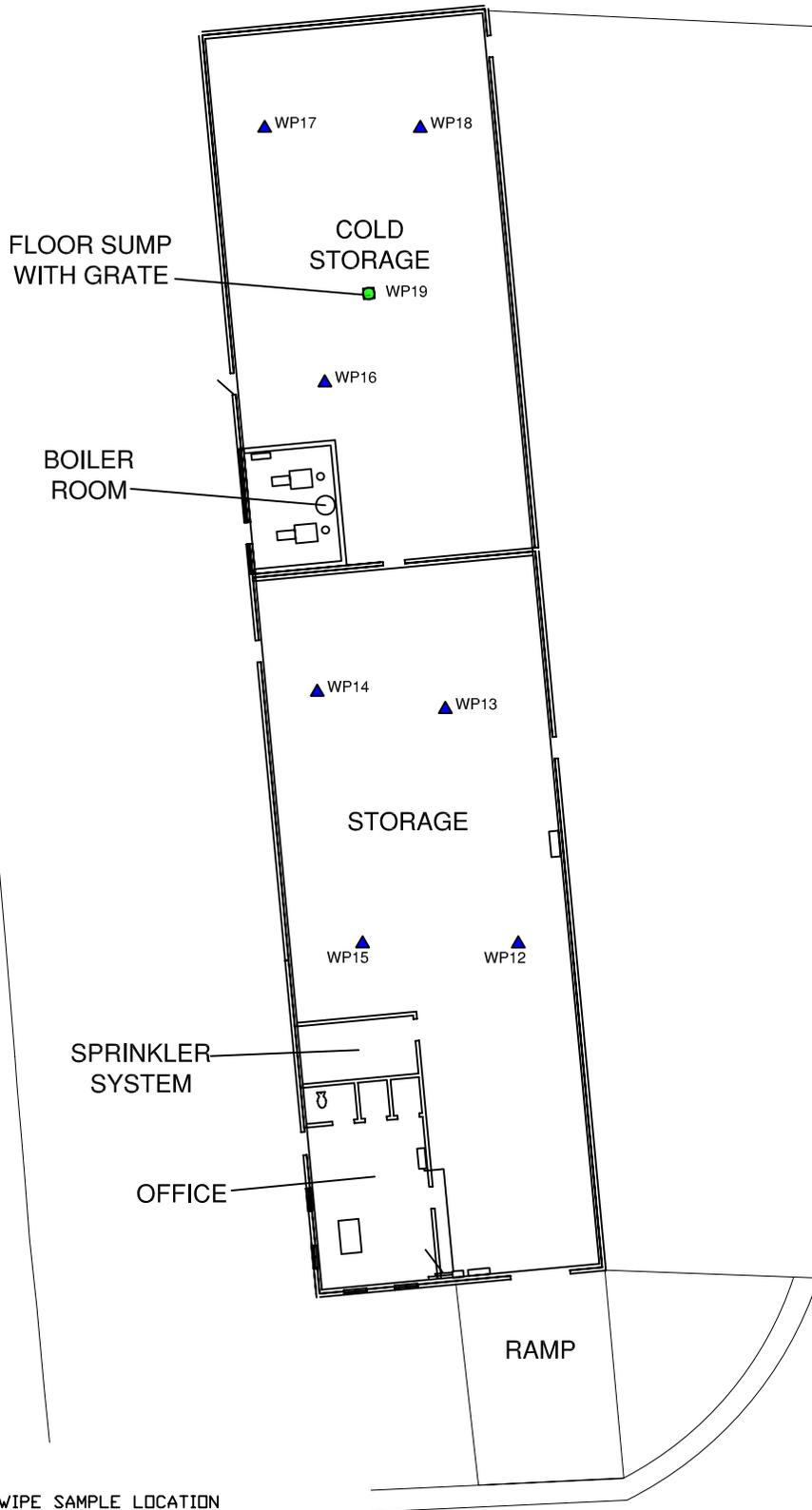
PRE-CLEANING WIPE SAMPLE LOCATIONS  
 BUILDING 81 - CHRIMP FACILITY PARCEL  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED

FILE	
\\.\NASB_BLDG_81_SAMP.DWG	
REV	DATE
0	11/30/10
FIGURE NUMBER	
FIGURE NO. 3	



ORION STREET



**LEGEND**

- ▲ WP12 FLOOR WIPE SAMPLE LOCATION
- WP19 SUMP WIPE LOCATION

GRAPHIC SCALE



TETRA TECH NUS, INC.

POST-CLEANING WIPE SAMPLE LOCATIONS  
 BUILDING 81 - CHRIMP FACILITY PARCEL  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE  
AS NOTED

FILE  
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REV	DATE
0	11/30/10

FIGURE NUMBER  
FIGURE NO. 4

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

**Inspection Date:** 7/29/10

**Personnel:** Brian Geringer / Mark Speer, P.E.

**Weather:** Partly Cloudy, 80s

**GENERAL BUILDING INFORMATION / USES**

Building Name: AIMD Bld 81 (CHRIMP Facility)

Function: Hazardous Materials Storage

Size: 7,000 SF

Year of Construction: 1980

Building 81 is located immediately east of Hangar 5 and Orion Street, south of the intersection of Orion Street and Neptune Drive. North of Building 81, at the southeast corner of the intersection of Orion Street and Neptune Drive, is Building 29 (Auto Hobby Shop); east is the former Building 52 (Storehouse), currently a concrete loading dock; southeast are Buildings 51 (Fire Prevention/NCIS Bldg.) and 55 (Base Security); south is a landscaped area and the Building 51, 55, and 81 asphalt paved access way.

Construction date of Building 81 is noted as 1980, and has served as a weapons storage facility and as a hazardous materials storage facility during its entire history.

Building 81 is a one story, steel structure on a concrete pad, with metal siding and roof systems. Building 81 consists of multiple rooms and storage areas; including office, AFFF equipment and material storage, boiler, storage, and cold storage spaces. This building previously served as a weapons storage facility and was most recently used for the storage of hazardous materials; no hazardous waste was generated, according to NAS Brunswick personnel. Building 81 is heated via electric baseboard heaters within the office space and via ceiling mounted hot water heaters; with hot water supplied from the boilers.

An unmarked Flammable Locker is located immediately east of Building 81, on the asphalt paved parking area. The structure was unmarked and not labeled, and is a 158 SF unheated metal structure. This structure is reportedly on loan from the Federal Supply Depot in Virginia. Access to this structure could not be gained during this site visit.

**HWSA INSPECTION / CONDITION**

At the time of inspection, Building 81 was vacant and in good condition. The metal storage racks remained in the southern storage area of the building. This building was constructed to contain releases within the floor area by the installation of a 6-inch high concrete berm along the perimeter of the building, and along the east-west wall between the southern and northern storage areas.

Vinyl tiling was observed in the office and bathroom spaces. Based on the construction date of the building (1980) it is not anticipated that the vinyl tiling is potentially asbestos containing material (PACM), although the tile mastic may be PACM. The vinyl tile was observed to be in good condition. The tile mastic was not observed.

Two aqueous film-forming foam (AFFF) storage tanks and associated fire suppression equipment is stored in the AFFF Room.

The former fuel oil feed lines and associated pump, for the above ground storage tank (AST) feed to the boilers, remained mounted on the interior of the buildings east wall.

**HWSA INSPECTION / CONDITION cont'd.**

Sealed and unsealed containers of epoxy, solvents and degreasers were stored within the southern storage space; and oils, and anti-freeze/coolant liquids were stored within the northern "cold" storage space, per Navy personnel. These materials were stored and dispensed to the various air wings as needed/required.

A floor sump was observed within the northern storage area. Review of Building 81 construction plans, and discussed with navy personnel, indicates that this sump is sealed off from the subsurface and was only to be used as a sump to collect releases from within the building.

A discolorization of the concrete floor within the northern storage area, east of the Boiler Room wall and adjacent to the personnel door way between the southern and northern storage areas, was observed. This discoloration appeared as white against the gray color of the gray epoxy sealer on the concrete. Navy personnel indicated that this area was the site of a lead battery release from a fork-lift, which was remedied by a Navy response team.

No evidence of current or past hazardous waste generation was observed. No evidence of hazardous waste residues was observed. No signs of a past release (staining, unusual odors, etc.) were observed, other than as noted above. 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.

**POTENTIAL PCB-CONTAINING TRANSFORMERS**

Three 50 KVA pole-mounted transformers were observed onsite (NASB Nos. 81.3, 81.4, and 81.5), along Orion Street and at the southwest corner of the building, that were reported to have been manufactured in 1992 (manufactured by Cooper RTE with S/Ns 921115696, 921115697, and 921115698) and containing mineral oil per NASB records. No signs of a past release (staining, unusual odors, stressed vegetation, etc.) were observed.

These transformers replaced three 50 KVA pole-mounted transformers identified as NASB Nos. 81.0, 81.1, and 81.2, which were removed and manifested offsite July 15, 1993; and were identified as containing polyvinyl chloride biphenyl's (PCBs).

**APPLICABLE REPORTS / DOCUMENTS**

Available historical aerial photos and base maps were reviewed for past uses:

1943 map – Vacant, undeveloped land.

1946 map – Vacant land within runway "clearance line"; Building 52 (Inert Storehouse located immediately east of current Building 81 footprint. A Building 81 (Sea Bag Locker) is located north of Building 211.

1950 building list – Building 81 (Sea Bag Locker) present; but not within the current footprint.

1952 map – Same as 1946 map.

1953 aerial – Aerial lacks clarity to make a determination.

**APPLICABLE REPORTS / DOCUMENTS cont'd.**

1956 map – Vacant land; additionally, 1<sup>st</sup> Street (later Orion Street) has been extended south beyond the current Building 81 footprint.

1957 map – Vacant land; Former Building 81 located previously north of Building 211 is not present, and appears to have been razed.  
1958 aerial – Vacant land; Buildings 52 and 211 are present.  
1965 building list – Buildings 81 is not present, and 52 (Storage, Inert) is present.  
1975 map – Same as 1957 map.  
1976 building list – Same as 1965 list, but with Building 52 named Storehouse.  
1978 map – Vacant land.  
1978 aerial – Same as 1958 aerial.  
1979 map – Buildings 81 and 52 are present.  
1981 aerial – Buildings 81 and 52 are present.  
1984 aerial – Same as 1981 aerial.  
1989 map – Same as 1979 map.  
1989 aerial – Same as 1981 aerial.  
1993 aerial – Same as 1981 aerial.  
1997 aerial – Same as 1981 aerial, with expansion of Building 81, northern storage area present during construction. The unmarked Flammable Locker is not present.  
2003 building list – Buildings 81 (CHRIMP Facility), 51 (Fire Prevention/NCIS Bldg.), and 55 (Base Security Building) are present. Building 52 is not present and the structure is assumed to have been razed.  
2006 map – Buildings 81, 51 and 55, and the foundation of former Building 52 are present.  
2008 building list – Buildings 81 (CHRIMP Facility), 51 (Fire Prevention/NCIS Bldg.), and 55 (Base Security Building) are present; and building number 52 has been re-issued to the “Stone House”, which was reportedly constructed in 1847.  
Current Google aerial – Current site configuration.

One above ground storage tank (AST) located on Building 81 parcel (No. A 81.0, 2,500-gallon, reported cleaned/closed 15 April 2009), which is located immediately east of Building 81. No underground storage tanks (USTs), or oil-water separators (OWS) were registered to Building 81, and/or the unmarked Flammable Locker structure.

According to the NAS Brunswick records, the following spills/releases occurred on/adjacent to the Building 81 parcel:

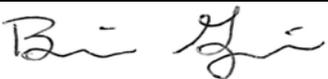
- A sulfuric acid spill was noted at Building 81 on October 29, 2004; the spill was reportedly less than 1 unit of an undisclosed volume or weight. The NAS Brunswick records do not indicate if the Maine Department of Environmental Protection (MEDEP) was notified of the release. Sulfuric acid is the main material in lead-based batteries, which coincides with NAS Brunswick personnel’s recollection of the fork-lift battery spill within Building 81.

**HAZARDOUS WASTE STORAGE RECORDS**

No hazardous waste was historically stored at Building 81 or the unmarked Flammable Locker 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.

**INSPECTOR SIGNATURE:** 

**PHOTOGRAPHS**



No. 1 Buildings 81 Parcel – NAS Brunswick  
CHRIMP Facility south elevation, main entrance

July 29, 2010



No. 2 Buildings 81 Parcel – NAS Brunswick  
CHRIMP Facility south elevation, with an unmarked flammable locker and a closed AST in the foreground

July 29, 2010



No. 3 Buildings 81 Parcel – NAS Brunswick October 14, 2010  
CHRIMP Facility interior, office in southwest corner of the building at right



No. 4 Buildings 81 Parcel – NAS Brunswick October 14, 2010  
CHRIMP Facility interior, view south of southern storage area, with main entrance in background



No. 5 Buildings 81 Parcel – NAS Brunswick October 14, 2010  
CHRIMP Facility interior, northern storage area (from south) sump at center of floor area



No. 6 Buildings 81 Parcel – NAS Brunswick July 29, 2010  
CHRIMP Facility interior, fire protection mechanical room; AFFF storage tanks at left of frame



No. 7 Buildings 81 Parcel – NAS Brunswick July 29, 2010  
Unmarked Flammable Locker at the CHRIMP Facility, southeast elevations, with AST in background



No. 8 Buildings 81 Parcel – NAS Brunswick September 16, 2010  
Unmarked Flammable Locker at the CHRIMP Facility, interior view from entrance



No. 9                      Buildings 81 Parcel – NAS Brunswick                      October 14, 2010  
Closed 2,500 Gallon AST, located on east side of Building 81; after removal of flammable locker