

N60087.AR.002329
NAS BRUNSWICK
5090.3a

FINAL RESOURCE CONSERVATION AND RECOVERY ACT PARTIAL CLOSURE REPORT
FOR BUILDING 635 WITH TRANSMITTAL LETTER NAS BRUNSWICK ME
3/14/2011
NAS BRUNSWICK

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

March 14, 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 Building 635

Dear Mr. Vigneault:

A copy of the Final RCRA Partial Closure Report for Building 635 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,


LISA M. JOY
Environmental Director

Enclosure: (1) Final RCRA Partial Closure Report for Building 635

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 635 – NMCB-27/VEHICLE MAINTENANCE BUILDING
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 Building 635 at Naval Air Station Brunswick (NAS Brunswick).

2. PROPERTY DESCRIPTION

Building 635 (NMCB-27 Vehicle Maintenance) is located in the northernmost portion of NAS Brunswick, near the mid-point of the base's northern boundary (Figure 1). The building is within the southwest portion of the Naval Mobile Construction Battalion Twenty-Seven (NMCB-27) Compound, also known as the SeaBee Compound (Figure 2). The compound is bordered to the north by Route 24 (Bath Road), to the east by High Street, and to the west by a grass-covered, open area. To the south, Perimeter Road borders most of the NMCB-27 Compound, with the exception of Building 632 (the NMCB-27 Trainer Building), which is located immediately south of Perimeter Road.

The NMCB-27 Compound is comprised of twelve main buildings and several ancillary buildings, including Buildings 635 and 632 (noted above), and is partially enclosed by a security fence. The area immediately surrounding Building 635 is gravel-covered and generally slopes eastward, toward High Street and Androscoggin Pond 1.

Building 635 was constructed in 1974 and has an area of 4,700 square feet. It is a steel-framed, metal building on a concrete slab-on-grade foundation. The interior of the building consists of two sections: one section is a large, open, vehicle maintenance area, with various support areas along its perimeter (work bench, tool storage, metal grinding, welding, parts washing, bermed oil-storage, tire changing, bathroom); the other is an internal, wood-framed, two-story section comprised of storage and office spaces (Figure 3). The two-story, wood-framed section is located along the western and southern walls of Building 635. The interior walls of the building are constructed of sheetrock. A ceiling-mounted gas heater provides heat in the maintenance area and fluorescent lights are present throughout the building. The mezzanine area in the western end of the building houses a carpeted office area, while the southern mezzanine area (above the operations, training, and dispatcher's offices) is used for storage (Figure 3).

Photographs of the building are provided as an attachment to this report.

The investigation conducted for this report applies only to the building footprint of Building 635 (as shown on Figure 2). The RCRA Partial Closure Report for the SeaBee Compound Area addresses the land surrounding and the groundwater underlying Building 635.

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 Building 635, including past use and operations at this 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, 1969, 1975, 1989, and 2006 (PWD, 1943, 1946, 1952, 1956, 1969, 1975, 1989, and 2006) and PWD building lists for 1965, 1976, 2003, and 2008 (PWD, 1965, 1976, 2003, and 2008a) were also reviewed. The records review also included a 1998 plan showing existing conditions at NAS Brunswick (Sebago Technics, 1998).

Historical maps and aerial photographs prior to 1956 show the current location of Building 635 as vacant land, with no development noted until the construction of a trailer park in 1956, in the northern half of the current NMCB-27 Compound. On the 1975 map, NMCB-27 635 is shown in its current location. In aerial photographs from 1981, 1984, 1989, 1993 and 1997, material storage containers and equipment are present at what is the current location of Building 404, adjacent to the southeast corner of Building 635 (Figure 2). The 1976 NAS Brunswick building list is the first to list Building 635, where it was listed (along with Buildings 629 through 635) as part of the Reserve Battalion Headquarters (PWD, 1976).

According to NAS Brunswick Environmental Department personnel, Building 635 was used as a vehicle maintenance area since initial construction of the building. There is no building-specific record of hazardous waste generation or accumulation at Building 635, since hazardous waste generation for NMCB-27 operations were reported for the entire compound (NMCB-27) and not for individual buildings within the compound, during the 1990 through 2009 time period (Environmental Department, 2010). Review of the NAS Brunswick Hazardous Waste Records indicates that the majority of the NMCB-27 hazardous waste stream is likely attributable to Building 635 (Vehicle Maintenance). An itemized list of hazardous wastes associated with NMCB-27 operations was obtained from the Hazardous Waste Database, for the period from 1990 through 2009. Information on the associated RCRA waste codes and quantities of waste was also included. This listing is provided as Table 1.

No septic system is present at Building 635, which is connected to the base-wide sanitary sewer system (Navy, 2006). The NAS Brunswick Revised Oil/Water Separator List indicates one active oil/water separator (OWS) associated with Building 635 (PWD, 2008b). The OWS list also indicates that floor drains in the repair bay of Building 635 are the source of flow to this 150-gallon, concrete chamber OWS, which eventually discharges to the sanitary sewer system.

According to NAS Brunswick records, two underground storage tanks (USTs) were associated with Building 635: one 5,000-gallon UST that stored No.2 fuel oil was installed in 1974 and removed in 1990; one 250-gallon UST that stored lube oil was installed in 1973 and removed in 1989 (Environmental Department, 2009). A number of aboveground storage tanks (ASTs) were also associated with Building 635, according to NAS Brunswick records, as indicated below (Environmental Department, 2009). According to the Environmental Department, the ASTs A635.1 through A635.6, which were located inside of the building, were removed from Building 635 when the Construction Battalion vacated the compound in 2010. One 250-gallon, double-wall steel AST that was used to store waste oil (A635.14) remains on the southern side of Building 635.

Tank ID	Capacity (gallons)	Material Stored	Manufacturer	Year Installed	Year Removed
A635.1	70	lube/hydraulic	Valley	unknown	2010
A635.2	70	lube/hydraulic	Valley	unknown	2010
A635.3	70	lube/hydraulic	Valley	unknown	2010
A635.4	70	lube/hydraulic	Valley	unknown	2010
A635.5	70	lube/hydraulic	Valley	unknown	2010

Tank ID	Capacity (gallons)	Material Stored	Manufacturer	Year Installed	Year Removed
A635.6	70	glycol	Valley	unknown	2010
A635.7	275	No. 1 fuel oil	Crown	unknown	2003
A635.8	275	No. 1 fuel oil	Crown	unknown	2003
A635.9	275	No. 1 fuel oil	Crown	unknown	2003
A635.10	275	No. 1 fuel oil	Crown	unknown	2003
A635.11	55	waste oil	unknown	unknown	1996
A635.12	25	diesel	unknown	unknown	2005
A635.13	30	diesel	unknown	unknown	2005
A635.14	250	waste oil	Hoover	1996	active

According to NAS Brunswick and MEDEP spill records, no spills were reported in the vicinity of Building 635 (Environmental Department, 1999 and 2005; MEDEP, 2010).

The NAS Brunswick Transformer Database lists three, central, non-polychlorinated-biphenyl (PCB) transformers that were associated with the buildings in the NMCB-27 Compound, but none were adjacent to Building 635 (PWD, 2009).

4. SITE VISIT AND INVESTIGATION

An initial site visit was conducted on August 12, 2010 by Mr. Brian Geringer, Mr. Mark K. Speer, P.E., and Mr. James Forrelli, P.E., of Tetra Tech. The interior and exterior areas of Building 635 were inspected. The purpose of the site visit was to verify information gathered during the records search and to collect 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 listed above was visually inspected for signs of hazardous waste generation or storage. Site visit observations, recorded on the attached Building Inspection Form⁽¹⁾, are summarized below:

- At the time of the site visit, Building 635 was unoccupied, vacant, and in fair condition.
- No structural modifications, which could conceal signs of a past release, were observed.
- Blast media ("Black Beauty"), aqueous parts-washing solution, and waste oil were reportedly used and/or stored at Building 635.
- Staining was observed on the floor and walls at various locations within the vehicle maintenance area.
- Former welding, grinding, parts washing, and glove-box sand-blasting areas were identified within the vehicle maintenance area.
- Three floor drains were observed in the repair bay area, near the work bench on the north wall. (According to NAS Brunswick records, these floor drains are connected to the OWS located outside of the building, as discussed in Section 3.)
- On the eastern and southern exterior walls of the building, peeling and flaking paint was observed.
- No transformers that could be a potential source of PCB contamination were observed.
- One double-walled AST was observed near the southeast corner of the building, and an empty concrete pad that previously supported a former AST was located at the western end of the building.
- Staining was observed outside the building adjacent to the AST, inside the building, adjacent to the former oil dispenser rack, and in the gravel parking area to the east of the existing AST; "Black Beauty" was also present in this area.
- The OWS associated with Building 635 was not located during the initial site visit, but was subsequently observed in a parking lot, outside of the building, during the first cleaning event.

Based on the site visit observations and records research findings, environmental samples were collected at Building 635 to investigate the potential presence of hazardous waste residue that may have been associated with the vehicle maintenance area, and with peeling paint observed on the building exterior. The investigation sample results are discussed below.

Paint-Chip Sampling

Because of the historic use of some metals and the occasional use of PCBs as constituents in paints, a composite paint-chip sample was collected from the southeastern exterior wall of Building 635, under the eastern awning (Figure 3, Photo No.1). The sample was collected on September 2, 2010, for Toxicity Characteristics Leaching Procedure (TCLP) RCRA metals and for PCB analyses. Samples were analyzed by Tetra Tech's subcontracted analytical laboratory, Analytics Environmental Laboratory (Analytics), Portsmouth, New Hampshire. The resulting analytical data underwent limited data validation, consisting of blank contamination evaluation and completeness evaluation. Results are presented in Table 2.

In the TCLP RCRA metals analysis, trace concentrations (0.050 - 2.59 milligrams per liter [mg/L]) of barium, cadmium, chromium, and lead were the only metals detected in the sample. None of the detected concentrations exceeded their respective TCLP criteria. No PCBs were detected in the sample.

Residue Investigation

On September 2 and 17, 2010, wipe samples were collected from 16 locations in Building 635, including work benches, floors, and walls, as shown on Figure 3. Wipe samples were collected with cotton gauze saturated with dilute nitric acid (1:4 nitric acid to distilled water) for metals analysis, or with acetone for semi-volatile organic compound (SVOC) analysis. A 10-centimeter (cm) by 10-cm sampling area was wiped with the cotton gauze while applying moderate pressure. Floor wipe samples were submitted for RCRA metals and semi-volatile organic compound (SVOC) analyses, and wall wipe samples were submitted for RCRA metals analysis, by Tetra Tech's subcontracted laboratory, 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 635 investigation are presented in Table 3. 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 or for the SVOCs. 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 3, lead exceeded the MEDEP criterion for floors ($40 \mu\text{g}/\text{ft}^2$) in all floor-wipe samples, ranging from $60 \mu\text{g}/\text{ft}^2$ (northwest corner of vehicle maintenance area) to $830 \mu\text{g}/\text{ft}^2$ (former glove box sandblasting area). In all wall-wipe samples, lead levels were below the MEDEP criterion for walls. All levels of other detected metals were below the WTC screening values.

Based on the analytical results, cleaning of Building 635 (discussed in Section 6) was required to remove lead-contaminated residue from the vehicle maintenance area, where lead residue was present at levels that exceeded the associated MEDEP criterion for dust on floors. SVOCs including bis(2-ethylhexyl)phthalate, butyl benzyl phthalate, and caprolactam were also detected in wipe samples collected from the floor adjacent to the work bench and the exterior former tire changing area.

5. HAZARDOUS WASTE GENERATION AND STORAGE

Based on the records research and NAS Brunswick Environmental Department personnel interviews, former operations at Building 635 generated various wastes on an episodic basis; these wastes were handled and disposed of under the NAS Brunswick hazardous waste department, as discussed in Section 3.

Based on site visit observations and sampling results, lead-contaminated residue exceeding clearance criteria was generated at Building 635 in the repair bays/maintenance areas, from activities conducted at the NMCB-27 Vehicle Maintenance Building. No other metals exceeded applicable settled dust clearance values. The areas impacted by lead-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 Building 635 to satisfy the MEDEP hazardous waste closure requirements. Closure actions were conducted at Building 635 from October 28, 2010 through February 25, 2011, as discussed below.

Tetra Tech's cleaning subcontractor (TK&K Services [TK&K]) performed floor-cleaning activities at Building 635, based on lead criterion exceedances in floor wipe samples, as discussed in Section 4. On October 28, 2010, cleaning activities were conducted in the repair areas of the vehicle maintenance area. The floors were manually swept and then vacuumed with a high-efficiency particulate air (HEPA) vacuum. After sweeping and vacuuming, the floor drains were covered and sealed (to prevent cleaning fluid from entering them). The floors were then 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 a 55-gallon drum, 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.

After the work areas were allowed to dry, twelve post-cleaning floor-wipe samples and four wall-wipe samples were collected from the cleaned areas on October 29, 2010 (Figure 4). Samples were submitted to Tetra Tech's subcontracted analytical laboratory, Analytics, for lead analysis. The resulting analytical data underwent limited data validation consisting of blank contamination and completeness evaluation. The October 29, 2010 wipe sample results are included in Table 4. For all confirmatory floor-wipe samples, the lead level results (56 to 1000 $\mu\text{g}/\text{ft}^2$) exceeded the MEDEP floor criterion. One wall wipe sample that was collected from the north wall, adjacent to the workbench, exceeded the MEDEP wall criterion for lead.

A second round of floor- and wall-cleaning activities was conducted on January 13, 2011 by TK&K in the vehicle maintenance area, using the procedures described above. All cleaning wastewater was containerized using a wet-vacuum, placed in 55-gallon drums, and transferred to the NAS Brunswick hazardous waste department for disposal. After the work areas were allowed to dry, twelve floor-wipe confirmatory samples (plus one duplicate) and one wall-wipe confirmatory sample (plus one duplicate) were collected from the cleaned areas on January 14, 2011 (Figure 5). Samples were submitted to Tetra Tech's subcontracted analytical laboratory, Katahdin Analytical Services of Scarborough, Maine (Katahdin) for lead analysis. The resulting analytical data underwent limited data validation consisting of field duplicate evaluation, blank

contamination, and completeness evaluation. The January 14, 2011 wipe sample results are included in Table 5. The lead levels in nine of the thirteen confirmatory floor-wipe samples exceeded the MEDEP floor criterion, with a maximum level of 250 µg/ft². The lead level in the wall-wipe sample was below the MEDEP criterion (Table 5).

A third cleaning event was conducted in the vehicle maintenance area of Building 635 on January 28 and January 31, 2011 by Tetra Tech's cleaning subcontractor, TK&K, using the procedures described above. All cleaning wastewater was containerized using a wet-vacuum, placed in 55-gallon drums, and transferred to the NAS Brunswick hazardous waste department for disposal. On February 1, 2011, after the work areas were allowed to dry, eleven floor-wipe samples (plus one duplicate sample) were collected from the areas shown on Figure 6 and were submitted to Katahdin for lead analysis. Of the twelve total samples, three samples that were collected from the southern end of the building (near the bermed oil storage area, the former bench grinder location, and the former parts washer location) had lead level results that exceeded the MEDEP floor criterion (Table 6).

Based on Event 3 results, a fourth decontamination event (Event 4) was conducted at Building 635 on February 23, 2011. Floors in the southern area of the building and the walls near the work bench in the northern area were cleaned again, using the procedures described above. Four confirmatory floor-wipe samples and one wall-wipe sample (plus one duplicate sample) were collected on February 25, 2011, using wipes saturated in de-ionized water (Figure 7). As shown in Table 7, lead levels in these samples were well below the associated MEDEP floor and wall criteria, therefore, additional closure action is not warranted at Building 635.

7. OTHER ENVIRONMENTAL CONSIDERATIONS

Any electrical transformers, OWS, USTs or ASTs known to be associated with Building 635 are discussed in Sections 3 and 4. No other transformers, OWS, or tanks were observed in the immediate vicinity of the building.

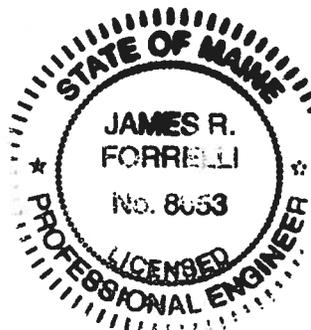
8. LIMITATIONS

This investigation of the hazardous waste closure requirement applies to the building footprint of Building 635 (building footprint as shown on Figure 2) only. It does not apply to the land surrounding or the groundwater underlying Building 635.

9. CERTIFICATION

Based on the findings of the investigation as presented in this Partial Closure Report, historical operations resulted in the generation of hazardous waste, including residue in the form of lead-contaminated residue in the vehicle repair areas of the NMCB-27 Vehicle Maintenance Building, NAS Brunswick, Maine. Closure actions were conducted to remove lead-contaminated residue to levels meeting MEDEP criteria for lead-contaminated settled dust surfaces applicable for RCRA closures. Therefore, the hazardous waste closure of Building 635 was completed in accordance with the provisions of MEDEP Regulations Chapter 851, Standards for Generators of Hazardous Waste, Section 11.

James R. Forrelli
 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 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.

REFERENCES

Clean Harbors Environmental Services, 2010. Site Services Multi-Task Worksheet for NAS Brunswick. June 9.

Environmental Department, 1999. Environmental Incident Log - Book No. 1, July 1988-November 1999, Environmental Department, NAS Brunswick, Maine.

Environmental Department, 2005. Environmental Incident Log - Book No. 2, December 1999-July 2005, Environmental Department, NAS Brunswick, Maine.

Environmental Department, 2009. Master/Historical Aboveground and Underground Storage Tank Inventory. NAS Brunswick, Maine. February.

Environmental Department, 2010. Hazardous Waste Database, Naval Air Station Brunswick Environmental Department, Brunswick, Maine.

MEDEP, 2010. MEDEP Spills Database. Maine Department of Environmental Protection, Augusta, Maine.

Navy (Department of the Navy, Base Realignment and Closure Program Management Office), 2006. "Final (Revision 2) Environmental Condition of Property Report for the Naval Air Station, Brunswick, Maine," NAS Brunswick, Maine. May 30.

PWD (Public Works Department), 1943. "US Naval Air Station, Brunswick, Maine, Building Site Plan Showing Locations of Underground Water Distribution Lines and Hydrants," NAS Brunswick, Maine. September 4.

PWD, 1946. "Map of US Naval Air Station, Brunswick, Maine, Showing conditions on June 30, 1946," NAS Brunswick, Maine. June 30.

PWD, 1952. "Map of US Naval Air Station, Brunswick, Maine, Showing conditions on June 30, 1952," NAS Brunswick, Maine. June 30.

PWD, 1956. General Station Map, Enclosure 2. , NAS Brunswick, Maine.

PWD, 1965. "Index of Structures, Department of the Navy Bureau of Yards & Docks Department" US Naval Air Station Brunswick, Maine. Updated May 13.

PWD, 1969. [General Development Map, US Naval Air Station, Brunswick, Maine. Revision August 13.](#)

PWD, 1975. "General Development, Existing and Planned, Operations Area," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. Updated December 2.

PWD, 1976. "Index of Structures, Naval Facilities Engineering Command, Northeast Division Drawing No. 747 256" Naval Air Station Brunswick, Maine. Updated September 21.

PWD, 1989. "Existing Conditions Map. Public Works Department Drawing No. 2157" NAS Brunswick, Maine. Revised April 2.

PWD, 2003. "NAS Brunswick, Facility List," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. March 9.

PWD, 2006. Brunswick Naval Air Station, NAS Brunswick, Maine.

PWD, 2008a. "Draft NAS Brunswick, Facility List," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. March.

PWD, 2008b. Revised Oil/Water Separator List, Table J-C4(a). NAS Brunswick, Maine. January 1.

PWD, 2009. Master Transformer Database. NAS Brunswick, Maine. June 24.

Sebago Technics, 1998. Existing Conditions, Naval Air Station Brunswick, Maine. Sebago Technics, Westbrook, Maine. August.

Sewall (James W. Sewall Company), 1953. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. June 29.

Sewall, 1958. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 9.

Sewall, 1978. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. November 22.

Sewall, 1981. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 17.

Sewall, 1984. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 23.

Sewall, 1989. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 2.

Sewall, 1993. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. November 8.

Sewall, 1997. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. May 27.

TABLE 1
BUILDING 635 HAZARDOUS WASTE QUANTITIES 1990 THROUGH 2009
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – VEHICLE MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 1 OF 2

Description	RCRA Waste Code	Quantity (pounds)
acid test kit	D001	1.7
adhesive	D001 D035 F003	115.6
adhesive asphalt	D001	8.7
adhesive caulk		670.8
adhesive, expired	NRCR	1.3
adhesive, plastic pipe	D001	143
aerosol	G06 G11	4204.24
alcohol		300
alkyd enamel paint	D001	8.3
analysis 4116	D001	1
antifreeze (regulated)		1.1
antifreeze nrcr	G11	397
anti-freeze, dirty	N/R	0.3
antiseize compound	NRCR	103
asbestos		135
asphalt roof cement	D001	399
At unknown	D004 D008	0.4
battery, dry	D009	161
battery, lead		351
battery, lithium		19.06
batteries, magnesium	D005 D007	289.9
batteries, spent magnesium-carbon	D003 D005 D007	1
batterys, spent mercury	D002 D009	522
battery, spent silver	D002 D011	16
benzalkenium chloride	NRCR	1
betadine solution	NRCR	1.4
blast grit		8.54
brake pads		81
calcium hypochlorite	D001	0.86
carbon remover	NRCR	13
cathode ray tubes (crts)		143
caustic soda	NRCR	24
charcoal canister	D007	1
coating compound for ammunition	D001	3.84
construction debris		175
correction fluid	D001 F003 U359	0.37
corrosion inhibitor	NRCR	0.93
corrosion preventive	D001	6
desicant activated	NRCR	25
dry cleaning solvent	D001	1.5
duplicating fluid	DOO1 F003 U359	12
enamel gloss alkyd	D001 D035	649
expired decon kits	D001 D002	0.2
floor wax	D002	0.54
glycol	G13	3.84
heat holding cmpd, contains asbestos	N/R	220
higgins pen cleaner	NRCR	0.14
hydrochloric acid	D002	0.3
ink, duplicating	NON-RCRA	22
ink, marking	D001 F003	1.85

TABLE 1
BUILDING 635 HAZARDOUS WASTE QUANTITIES 1990 THROUGH 2009
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – VEHICLE MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 2 OF 2

Description	RCRA Waste Code	Quantity (pounds)
lamps, fluorescent 4 foot		5.1
lamps, high pressure sodium		0.8
lime		12
liquid non reg		0.3
neosporin	NRCR	11.3
oil, used		8.2
oil, waste		24
oil, waste contaminated w/thinners	D001	0.3
paint	D001	10
paint aircraft	G06 G09	41.3
paint, enamel	D001	252
paint, euclid floor	D001	2.7
paint, expired	NRCR	1.2
paint, green	D001 D019	41
paint lacquer	D001	0.9
paint latex		116.3
paint misc	D001 D007 D008 D035	1.2
paint related material	D001 D035 F003 F005	35
paint related material	D001	0.9
paint, rubber	D001	2385
parts washer fluid		22
polyurethane	D001 D007 D035	31
ricoh developer	NRCR	218
roof coating compound - combustible liquid	D001	22
safety kleen bldg 635	D001 D018 D039	10
safety kleen change out	D007 D008	0.6
scotchkote electrical coating	D001 D035	351
sealant	G06	1
sealing compound	D001	12
silicone	NRCR	0.26
soap	G11	10.16
sodium chloride	NRCR	19
solvent changeout	D001 D018 D039 D040	6.5
solvent tank removal from rmcb27	D001 D018 D039 D040	0.24
stain dark redwood	D001	81
thorobond	NRCR	60
thoropatch	NRCR	1.3
unknown	D001 D006 F003 F005	3
unknown possible de ice	NRCR	292
unknown tar from weapons area	D018	36
waste mercury, dirty	D009	486
waste gas	G19	0.37
water purification tablets	NRCR	0.8

TABLE 2
INVESTIGATION PAINT-CHIP SAMPLE RESULTS
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID⁽¹⁾		B635-PC01
LOCATION		Building 635 east at shelter exterior walls
MATRIX		paint chip
SAMPLE DATE		9/2/10
	Criteria	
METALS	TCLP Limit (mg/L)	Results (mg/L)
arsenic	5	0.025 U
barium	100	2.59
cadmium	1	0.154
chromium	5	.058 J
lead	5	0.050
mercury	0.2	0.001 U
selenium	1	0.035 U
silver	5	0.020 UJ
	Criteria (mg/kg)	Results (mg/kg)
PCB		
Aroclor-1016	--	0.043 U
Aroclor-1221	--	0.043 U
Aroclor-1232	--	0.043 U
Aroclor-1242	--	0.043 U
Aroclor-1248	--	0.043 U
Aroclor-1254	--	0.043 U
Aroclor-1260	--	0.043 U
Total Aroclor ⁽²⁾	50	0.043 U

Notes:

- (1) Sample prefix "NASB" is not shown.
(2) Toxic Substances Control Act (TSCA) PCB limit for building materials is 50 ppm.
mg/kg milligram per kilogram
mg/L milligram per liter
U not detected (with associated detection limit)
J estimated
-- no criteria available

**TABLE 3
PRE-CLEANING WIPE SAMPLE RESULTS
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 1 OF 3**

SAMPLE ID ⁽¹⁾				B635-WP01	B635-WP02	B635-WP03	B635-WP04	B635-WP05	B635-WP06	B635-WP07
LOCATION				bermed oil storage area floor	former parts washer floor	former glove box sand blast floor	former welding area floor	southwest floor	northwest floor	south floor
MATRIX				wipe	wipe	wipe	wipe	wipe	wipe	wipe
SAMPLE DATE				09/02/10	09/02/10	09/02/10	09/02/10	09/02/10	09/02/10	09/02/10
CRITERIA										
METALS (µg/ft ²)	WTC	MEDEP floor	MEDEP wall							
arsenic	36	--	--	4.6 U	5.9 J	4.6 J	3.8 J	4.6 U	4.6 U	7.4
barium	10000	--	--	560 J	900 J	460 J	1600 J	580 J	510 J	1100 J
cadmium	140	--	--	3.3 J	8.1 J	3.6 J	8.1 J	7.6 J	6.1 J	13
chromium	440	--	--	38 J	120 J	180 J	88 J	22 J	16 J	62 J
lead	NA	40	250	170	360	830	350	170	60	170
mercury	15	--	--	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
selenium	--	--	--	3.8 J	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U
silver	730	--	--	3.7 U	11 J	3.7 UJ	10 J	3.7 U	3.7 U	3.7 UJ
SEMIVOLATILES (µg/ft ²)										
bis(2-ethylhexyl)phthalate	--	--	--	6800	93	na	na	71	na	69
butyl benzyl phthalate	--	--	--	30	38	na	na	79	na	110
caprolactam	--	--	--	31 J	35 J	na	na	25 J	na	55
other SVOCs	--	--	--	ND	ND	na	na	ND	na	ND

**TABLE 3
PRE-CLEANING WIPE SAMPLE RESULTS
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 2 OF 3**

SAMPLE ID ⁽¹⁾				B635-WP08	B635-WP08 (Dup 01)	B635-WP09	B635-WP10	B635-WP11	B635-WP12	B635-WP12 (Dup 02)
LOCATION				work bench floor	work bench floor	southeast floor	northeast floor	former bench grinder location floor	exterior former tire changing area floor	exterior former tire changing area floor
MATRIX				wipe	wipe	wipe	wipe	wipe	wipe	wipe
SAMPLE DATE				09/02/10	09/02/10	09/02/10	09/02/10	09/02/10	09/02/10	09/02/10
CRITERIA										
METALS (µg/ft ²)	WTC	MEDEP floor	MEDEP wall							
arsenic	36	--	--	4.6 U	4.6 U	5 J	2.7 J	4.6 U	9.3	7.3 J
barium	10000	--	--	290 J	770 J	400 J	690 J	820 J	270 J	150 J
cadmium	140	--	--	12	9.2 J	4.2 J	10	4.1 J	22	14
chromium	440	--	--	29 J	28 J	32 J	140 J	46 J	74 J	130 J
lead	NA	40	250	540	390	75	430	160	130	130
mercury	15	--	--	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
selenium	--	--	--	6.5 U	6.5 U	6.5 U	5.2 J	6.5 U	6.5 U	6.5 U
silver	730	--	--	3.7 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.6 J	4.4 J	5.3 J
SEMIVOLATILES (µg/ft ²)										
bis(2-ethylhexyl)phthalate	--	--	--	140	130	na	na	na	320	na
butyl benzyl phthalate	--	--	--	270	170	na	na	na	9.3 U	na
caprolactam	--	--	--	37 J	23 U	na	na	na	44 J	na
other SVOCs	--	--	--	ND	ND	na	na	na	ND	na

**TABLE 3
PRE-CLEANING WIPE SAMPLE RESULTS
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 3 OF 3**

SAMPLE ID ⁽¹⁾				B635-WP13A ⁽²⁾	B635-WP14A ⁽²⁾	B635-WP15A ⁽²⁾	B635-WP16A ⁽²⁾
LOCATION				north wall west of work bench	north wall east of work bench	wall at welding station	wall at grinding station
MATRIX				wipe	wipe	wipe	wipe
SAMPLE DATE				09/17/10	09/17/10	09/17/10	09/17/10
				CRITERIA			
METALS (µg/ft ²)	WTC	MEDEP floor	MEDEP wall				
arsenic	36	--	--	4.6 UJ	4.6 UJ	4.6 UJ	4.6 U
barium	10000	--	--	530	260	57	61
cadmium	140	--	--	5.1 J	9.3	2.8 UJ	1.8 J
chromium	440	--	--	20	28	19	13 J
lead	NA	40	250	170	77	29	22
mercury	15	--	--	0.19	0.093 J	0.0093 J	0.0074 J
selenium	--	--	--	6.9 J	5.7 J	4.3 J	6.2 J
silver	730	--	--	1 J	3.7 U	6.1 J	0.56 J

Notes:

- (1) Sample prefix "NASB" is not shown.
- (2) The suffix "A" was added to these pre-cleaning wall samples because the sample IDs were inadvertently duplicated in the first post-cleaning sampling round (Table 3, where the suffix "B" was added to differentiate between the samples).

Wipe sample surface area: 10 cm by 10 cm

All wipe samples were collected from the vehicle maintenance area, except for those labeled "Exterior"

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

µg/ft² micrograms per square foot

U not detected (with associated detection limit)

J estimated result

-- no criteria available

NA not applicable

na not analyzed

ND not detected

Shading indicates criteria exceeded

**TABLE 4
POST-CLEANING EVENT 1 WIPE SAMPLE RESULTS
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 1 OF 1**

SAMPLE ID⁽¹⁾			B635-WP13B	B635-WP14B	B635-WP15B	B635-WP16B	B635-WP17	B635-WP18	B635-WP19	B635-WP20
LOCATION			northwest floor	adjacent to work bench floor	northeast floor	southwest floor	south floor	southeast floor	bermed oil storage area floor	adjacent to former parts washer floor
MATRIX			wipe	wipe	wipe	wipe	wipe	wipe	wipe	wipe
SAMPLE DATE			10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010
	CRITERIA									
METALS (µg/ft²)	MEDEP floor	MEDEP wall								
lead	40	250	56	730	220	550	320	150	78	600

SAMPLE ID⁽¹⁾			B635-WP21	B635-WP22	B635-WP23	B635-WP24	B635-WP25	B635-WP26	B635-WP27	B635-WP28
LOCATION			former bench grinder floor	former glove box sand blast floor	former welding area floor	former tire changing area floor	former bench welding area west wall	former parts washer location south wall	work bench north wall	former bench grinder west wall
MATRIX			wipe	wipe	wipe	wipe	wipe	wipe	wipe	wipe
SAMPLE DATE			10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010	10/29/2010
	CRITERIA									
METALS (µg/ft²)	MEDEP floor	MEDEP wall								
lead	40	250	1000	320	400	640	19	47	470	19

Notes:

- (1) Sample prefix "NASB" is not shown.
- Wipe sample surface area: 10 centimeters (cm) by 10 cm
- µg/ft² micrograms per square foot
- Shading indicates criteria exceeded

**TABLE 5
POST-CLEANING EVENT 2 WIPE SAMPLE RESULTS
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 1 OF 1**

SAMPLE ID ⁽¹⁾	B635-WP29	B635-WP30	B635-WP31	B635-WP32	B635-WP33	B635-WP34	B635-WP34 (duplicate)	B635-WP35		
LOCATION	southwest floor	northwest floor	south floor	work bench floor	southeast floor	northeast floor	northeast floor	bermed oil storage area floor		
MATRIX	wipe	wipe	wipe	wipe	wipe	wipe	wipe	wipe		
SAMPLE DATE	1/14/2011	1/14/2011	1/14/2011	1/14/2011	1/14/2011	1/14/2011	1/14/2011	1/14/2011		
	CRITERIA									
METALS (µg/ft ²)	MEDEP floor	MEDEP wall								
lead	40	250	62	19	15	56	53	25 J	52 J	69

SAMPLE ID ⁽¹⁾	B635-WP36	B635-WP37	B635-WP38	B635-WP38 (duplicate)	B635-WP39	B635-WP40	B635-WP41		
LOCATION	adjacent to former parts washer location floor	former glove box sand blast location floor	former bench grinder location west wall	former bench grinder location west wall	former bench grinder location floor	former welding area floor	former tire changing area floor		
MATRIX	wipe	wipe	wipe	wipe	wipe	wipe	wipe		
SAMPLE DATE	1/14/2011	1/14/2011	1/14/2011	1/14/2011	1/14/2011	1/14/2011	1/14/2011		
	CRITERIA								
METALS (µg/ft ²)	MEDEP floor	MEDEP wall							
lead	40	250	250	20	9.3 U	14	56	98	120

Notes:

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

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

µg/ft² micrograms per square foot

Shading indicates criteria exceeded

**TABLE 6
POST-CLEANING EVENT 3 WIPE SAMPLE RESULTS
RCRA PARTIAL CLOSURE REPORT
BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 1 OF 1**

SAMPLE ID⁽¹⁾			B635-WP42	B635-WP43	B635-WP44	B635-WP45	B635-WP46	B635-WP47	B635-WP48	B635-WP49
LOCATION			southwest floor	northwest floor	south floor	adjacent to work bench floor	southeast floor	northeast floor	bermed oil storage area floor	adjacent to former parts washer floor
MATRIX			wipe	wipe	wipe	wipe	wipe	wipe	wipe	wipe
SAMPLE DATE			2/1/2011	2/1/2011	2/1/2011	2/1/2011	2/1/2011	2/1/2011	2/1/2011	2/1/2011
	CRITERIA									
METALS (µg/ft²)	MEDEP floor	MEDEP wall								
lead	40	250	8.3 J	7 J	15 J	27 J	27 J	26 J	130 J	110 J

SAMPLE ID⁽¹⁾			B635-WP50	B635-WP51	B635-WP51 (duplicate)	B635-WP52
LOCATION			former glove box sand blast floor	former bench grinder floor	former bench grinder floor	adjacent to former welding area floor
MATRIX			wipe	wipe	wipe	wipe
SAMPLE DATE			2/1/2011	2/1/2011	2/1/2011	2/1/2011
	CRITERIA					
METALS (µg/ft²)	MEDEP floor	MEDEP wall				
lead	40	250	18 J	59 J	19 J	31 J

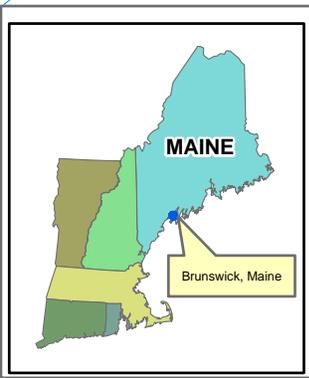
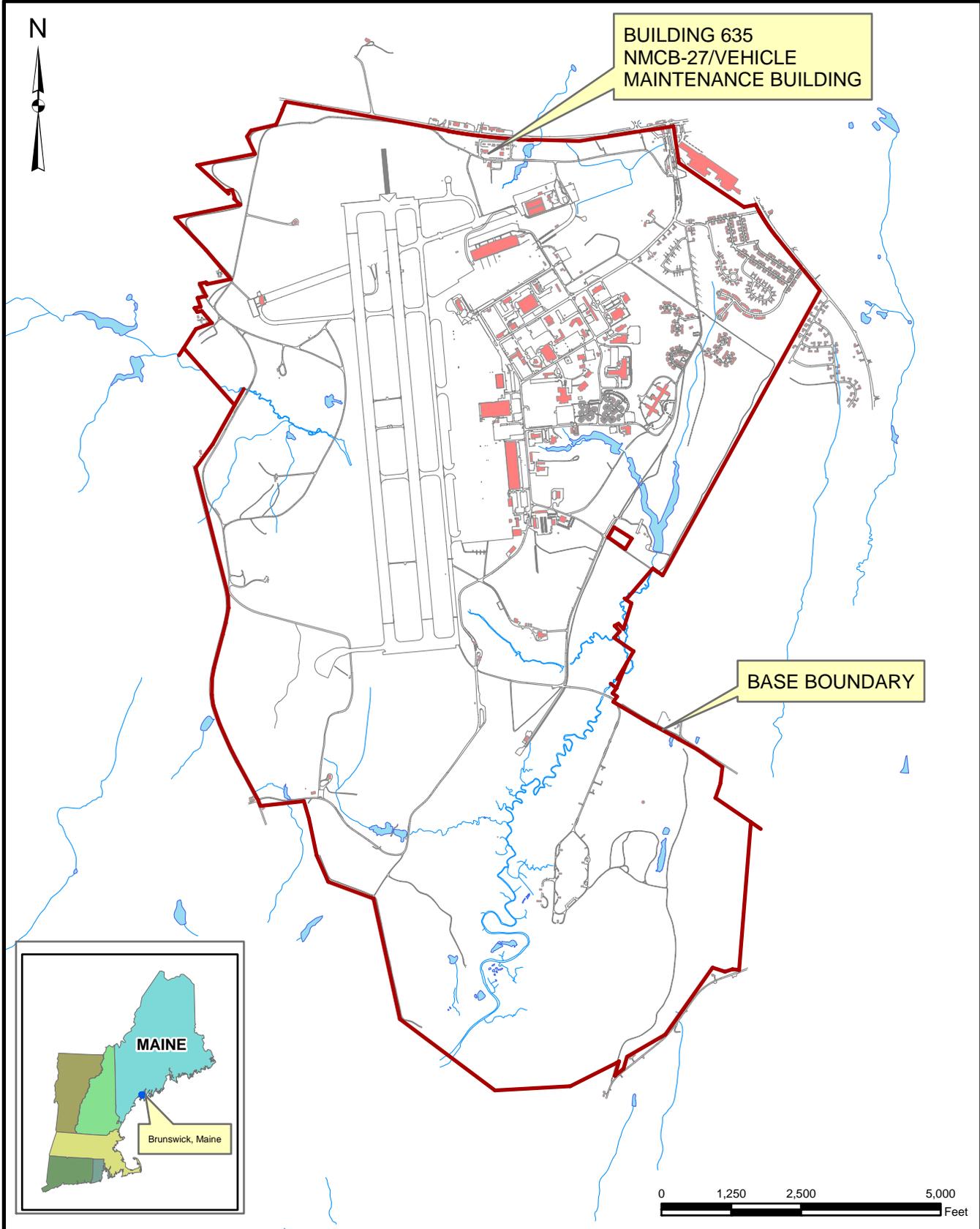
Notes: (1) Sample prefix "NASB" is not shown.
Wipe sample surface area: 10 centimeters (cm) by 10 cm
µg/ft² micrograms per square foot
Shading indicates criteria exceeded

**TABLE 7
 POST-CLEANING EVENT 4 WIPE SAMPLE RESULTS (unvalidated)
 RCRA PARTIAL CLOSURE REPORT
 BUILDING 635 – NMCB-27/EQUIPMENT MAINTENANCE BUILDING
 NAVAL AIR STATION BRUNSWICK, MAINE
 PAGE 1 OF 1**

SAMPLE ID⁽¹⁾			B635-WP53	B635-WP53 (duplicate)	B635-WP54	B635-WP55	B635-WP56	B635-WP57	
LOCATION			above work bench wall- north	above work bench wall- north	bermed oil storage area floor	former parts washer location floor	former bench grinder location floor	exterior former tire changing area floor	
MATRIX			wipe	wipe	wipe	wipe	wipe	wipe	
SAMPLE DATE			2/25/2011	2/25/2011	2/25/2011	2/25/2011	2/25/2011	2/25/2011	
			CRITERIA						
METALS (µg/ft²)		MEDEP floor	MEDEP wall						
lead		40	250	45.5	86.4	3.44	26.9 J	26.9	26.01

Notes:

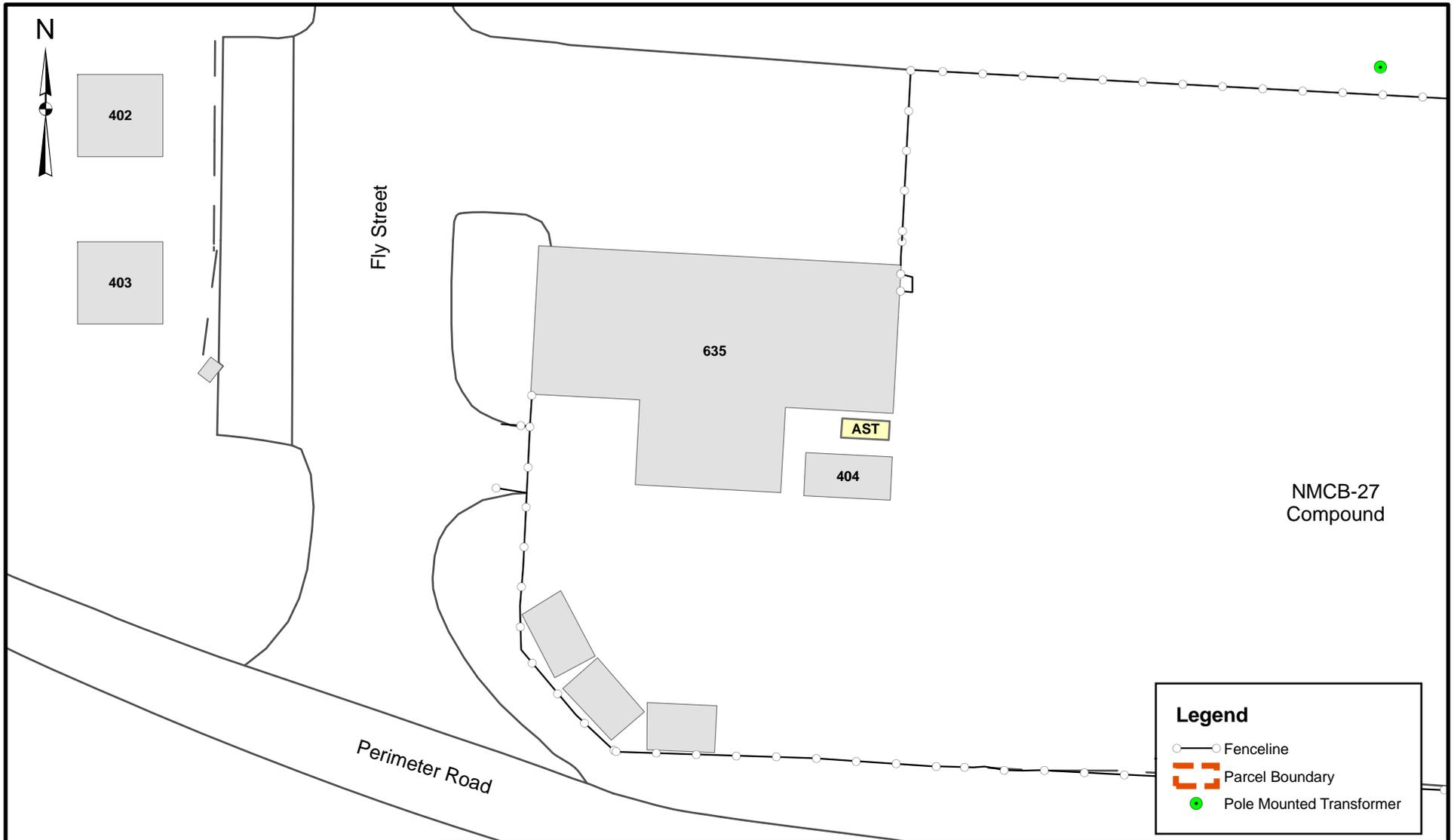
(1) Sample prefix "NASB" is not shown.
 Wipe sample surface area: 10 centimeters (cm) by 10 cm
 µg/ft² micrograms per square foot



Tetra Tech NUS, Inc.

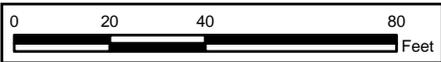
SITE LOCATION MAP
BUILDING 635 - NMCB-27/VEHICLE MAINTENANCE BUILDING
RCRA PARTIAL CLOSURE REPORT
NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\WASB_BLDG_635_LOCUS.MXD	
REV 0	DATE 03/03/11
FIGURE NUMBER 1	



Legend

- Fence line
- Parcel Boundary
- Pole Mounted Transformer



SITE MAP
 BUILDING 635 - NMCB-27/VEHICLE MAINTENTANCE BUILDING
 RCRA PARTIAL CLOSURE REPORT
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE \\NASB_BLDG_635_SITE_MAP.MXD	
REV 0	DATE 03/04/11
FIGURE NUMBER 2	

