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FINAL TECHNICAL MEMORANDUM GROUNDWATER AND VAPOR INTRUSION INVESTIGATION FOR BUILDING 250 AND HANGAR 4 NAS BRUNSWICK ME
11/1/2013
TETRA TECH

TECHNICAL MEMORANDUM

GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

For

Building 250 and Hangar 4
Former Naval Air Station Brunswick
Brunswick, Maine

Naval Facilities Engineering Command
Mid-Atlantic

Contract Number N62470-08-D-1001
Contract Task Order WE03

November 2013

TECHNICAL MEMORANDUM

GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FOR

BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Naval Facilities Engineering Command Mid-Atlantic
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Norfolk, Virginia 23511-3095

Submitted by:
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CONTRACT NUMBER N62470-08-D-1001
CONTRACT TASK ORDER WE03

November 2013

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ACRONYMS

AIMD	Aircraft Intermediate Maintenance Division
AF	attenuation factor
AF/O/PP	Airframes, Ordnance and Power Plants
bgs	Below Ground Surface
B250	Building 250
CLEAN	Comprehensive Long-Term Environmental Action Navy
c-1,2-DCE	cis-1,2-dichloroethene
CAS	Chemical Abstracts Service
CTO	Contract Task Order
DO	dissolved oxygen
DPT	direct-push technology
EPA	U.S. Environmental Protection Agency
ERP	Environmental Restoration Program
EPH	extractable petroleum hydrocarbon
eV	electron volt
FD	floor drain
GPR	ground-penetrating radar
H4	Hangar 4
Hg	mercury
HVAC	heating, ventilation, and air-conditioning
IAT	Indoor Air Target
ID	inside diameter
IDW	Investigation-derived waste
IRP	Installation Restoration Program
MADEP	Massachusetts Department of Environmental Protection
MCL	Maximum Contaminant Level
MECDC	Maine Center for Disease Control
MEDEP	Maine Department of Environmental Protection
MEG	Maximum Exposure Guidelines
ml/min	milliliter per minute
MW	monitoring well
MRRA	Midcoast Regional Redevelopment Authority
mph	miles per hour
NA	not analyzed
NAS	Naval Air Station
NAVD88	North American Vertical Datum of 1988
NAD83	North American Datum 1983
NTU	nephelometric turbidity unit
PCE	tetrachloroethene
PID	photoionization detector
ppm	parts per million
PSL	project screening level
PVC	polyvinyl chloride
ORP	oxidation-reduction potential
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	soil boring
SGT	soil gas target
SOP	Standard Operating Procedure
TCE	trichloroethylene
TAL	Target Analyte List
TCL	Target Compound List
Tetra Tech	Tetra Tech, Inc.

ACRONYMS (continued)

TPVC	top of PVC riser
USCS	Unified Soil Classification System
VI	vapor intrusion
VOC	volatile organic compound
VPH	volatile petroleum hydrocarbon
$\mu g/m^3$	microgram per cubic meter
µg/L	micrograms per liter

CERTIFIED MAINE GEOLOGIST

CERTIFICATION

By affixing my seal to the "*Technical Memorandum, Groundwater and Vapor Intrusion Investigation for Building 250 and Hangar 4, Former Naval Air Station Brunswick, Brunswick, Maine*," prepared by Tetra Tech and dated November 2013, I am certifying that the geologic information and interpretations herein are true and correct to the best of my knowledge. I further certify that I am licensed to practice in the State of Maine and that it is within my professional expertise to verify the correctness of the information.

Timothy S. Evans, C.G. Registration Number GE505	November 7, 2013 Date

TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
NOVEMBER 8, 2013

EXECUTIVE SUMMARY

A groundwater and vapor intrusion (VI) investigation was performed at Building 250 and Hangar 4 ("Building 250 Parcel" or "the parcel"), located at the former Naval Air Station (NAS) Brunswick in Brunswick, Maine, to evaluate the indoor air quality of Building 250 and Hangar 4 and to provide sufficient data to support a VI screening level assessment of Building 250 and Hangar 4. The field program of this investigation was performed in three phases: May/June 2012, September/October 2012, and May 2013. The investigation results will support reuse of the Building 250 Parcel.

The groundwater investigation, performed during the first two phases of the field program, included installing 15 monitoring wells, measuring groundwater levels at 25 wells, and collecting and analyzing 23 groundwater samples for one or more of the following: Target Compound List (TCL) volatile organic compounds (VOCs); extractable petroleum hydrocarbons/volatile petroleum hydrocarbons (EPH/VPH); and Target Analyte List (TAL) metals. The VI investigation included two rounds of sampling and laboratory analysis of indoor air and sub-slab soil gas at 13 (co-located) locations and outdoor ambient air at one location for VOCs. During the first round, one additional sample for analysis was collected from the utility tunnel located beneath the building, and one vapor sample was collected from one interior floor drain. The VI investigation also included floor drain screening.

Groundwater analytical results indicated the presence of two VOCs, trichloroethene (TCE) and cis-1,2-dichloroethene (c-1,2-DCE), at levels slightly exceeding criteria (the EPA Drinking Water Maximum Contaminant Levels [MCLs] and/or Maine Remedial Action Guidelines (RAGs) - Residential Scenario): TCE in four of the 15 wells, and c-1,2-DCE in one well. This indicates the lack of a significant source of volatile organics at the Building 250 Parcel, and minimal groundwater impacts overall. The Navy will work with the U.S. Environmental Protection Agency (EPA) and the Maine Department of Environmental Protection (MEDEP) to determine what additional work, if any, is required for groundwater at the parcel.

In the first round of sub-slab soil gas sampling and analysis, only two VOCs, tetrachloroethene (PCE) and chloroform, were detected at levels that exceed their respective soil gas targets (SGTs), and each at only one location. In the second round of sub-slab soil gas sampling, only PCE exceeded its SGT, at the same location as the first round sampling.

In the first round of indoor air sampling, VOCs did not exceed either the minimum MEDEP multi-contaminant Commercial Indoor Air Targets (IATs) or the EPA Industrial Air Regional Screening Levels (RSLs). In the second round of indoor air sampling, TCE was detected slightly above the IAT at one location, and above the RSL at two locations. A slightly elevated concentration of TCE was also detected in outdoor ambient air.

However, in general there is no correlation between the sub-slab soil gas and indoor air level of VOCs found to exceed screening levels. In two rounds of soil gas and indoor air sampling, locations with elevated levels of PCE in soil gas did not correspond to significant levels of PCE in indoor air, and locations with indoor air TCE exceedances did not correspond to high concentrations of TCE in sub-slab soil vapor. TCE was not present above the SGT in the sub-slab soil vapor samples at these locations, while PCE and chloroform, which exceeded their SGTs, were detected at very low levels in indoor air. These observations indicate that the presence of TCE in the indoor air does not appear to be related to VI from the subsurface. There are no known potential interior sources of TCE, as all chemicals were removed and no significant residual waste material remains based on the hazardous waste closure investigation. Although, since the areas where the indoor air TCE detections exceedances occurred was used for aircraft maintenance involving solvents use for 30 years, it is possible that residual sources of indoor air VOCs exist that could account for the detection of TCE in indoor air. In addition, a lower air circulation rate in the building during the second round may have affected indoor air quality: the heating, ventilation, and air conditioning (HVAC) system was active only in the non-hangar area of the building to simulate normal seasonal conditions.

A screening risk analysis was conducted by comparing indoor air concentrations to EPA industrial Regional Screening Levels (RSLs) to estimate the potential risks associated with exposure to indoor air by an industrial worker. Industrial incremental lifetime cancer risks associated with the measured indoor air concentrations were less than 1 x 10-5, within EPA’s target risk range. The noncarcinogenic hazard index was 1.4, approximately equal to the target hazard index of 1.0.

Based on a multiple lines of evidence approach taken to evaluate data collected during the groundwater and VI investigation, VI from the subsurface is not a concern for Building 250 and Hangar 4. The direct measurement and comparison of VOC concentrations in subsurface soil gas and indoor air indicate that subsurface vapors are attenuated and that vapor intrusion is not significant. In general there is no correlation between the sub-slab soil gas and indoor air levels of VOCs found to exceed screening levels. The indoor air contamination detected during the second round of VI sampling could be a result of past operations, and have no connection to a VI pathway. The VI pathway is incomplete; therefore, no VI remedial action or mitigation measures are necessary.

1.0 INTRODUCTION

This Technical Memorandum documents the groundwater and vapor intrusion (VI) investigation that was performed to evaluate the groundwater and indoor air quality of Building 250 and Hangar 4 ("Building 250 Parcel"), located at the former Naval Air Station (NAS) Brunswick in Brunswick, Maine. This investigation was performed in May/June 2012, September/October 2012, and May 2013 by Tetra Tech, Inc. (Tetra Tech) on behalf of the United States Navy under Contract Task Order (CTO) 69, Contract Number N62472-03-D-0057, as part of the Comprehensive Long-Term Environmental Action Navy (CLEAN) Environmental Restoration Program (ERP). Activities were conducted in accordance with the Building 250 and Hangar 4 Screening Investigation Work Plan, dated May 2012 (Tetra Tech, 2012a), and the Work Plan Addendum, dated October 2012 (Tetra Tech, 2012b), and based on discussions with the Navy, the EPA, and the MEDEP.

The investigation included installing monitoring wells, measuring groundwater levels, and collecting and analyzing groundwater, indoor air, outdoor air, and sub-slab soil gas samples. The objective of this groundwater and VI investigation is to evaluate the indoor air quality of Building 250 and Hangar 4 regardless of source or pathway and to provide sufficient data to support a VI screening level assessment of Building 250 and Hangar 4. The findings will be used to determine whether or not the Building 250 Parcel has all three components of a complete VI pathway, including: 1) evidence of a source or release of volatile and toxic chemicals; 2) a pathway to a receptor; and 3) a receptor. The results of the investigation are needed to support the Findings of Suitability to Transfer (FOST) for the Building 250 Parcel.

2.0 BACKGROUND

The 9.79-acre Building 250 Parcel is located in the central portion of the former NAS Brunswick, as illustrated in Figure 1, and is bordered to the north by Building 86, to the east by Orion Street and Site 9 of the Installation Restoration Program (IRP), to the south by Hangar 5, and to the west by the airfield (Figure 2). The Building 250 Parcel (Transfer Parcel AIR-12) is part of the Airport Public Benefit Conveyance area that has not yet been transferred to the Midcoast Regional Redevelopment Authority (MRRA), as illustrated in Figure 2. The Building 250 and Hangar 4 portion of the Building 250 Parcel is surrounded on three sides by a concrete apron, with parking areas located near the east entrance and along the southern border. Grassy areas with small trees separate parking areas from Orion Street. The topography of the Building 250 Parcel is generally flat, with surface runoff intercepted by a storm drain system that discharges to an impoundment pond east of Orion Street.

Building 250 [Aircraft Intermediate Maintenance Division (AIMD)] and Hangar 4 comprise an 184,000-square-foot, steel-truss-framed building constructed on a concrete slab foundation. The building has been vacant since April 2010 when the squadron that occupied the building was transferred. For purposes of discussion for this investigation, and as shown in Figure 2, the ground-level floor space of Building 250 (AIMD) and Hangar 4 is divided into three areas:

- Hangar 4 and Original AIMD Area
- Airframes, Ordnance and Power Plants (AF/O/PP) Area, and
- Avionics Area

The Hangar 4 and Original AIMD Area comprise the western side of the building, with Hangar 4 three stories in height. Hangar 4 was the original Building 250 structure, constructed in 1956 as an aircraft maintenance hangar. This portion of the building houses a number of administration spaces, small workshops, and the hangar bay. The second floor of Building 250, containing office space and known as the Third Deck, is located above the Original AIMD Area.

The AF/O/PP Area makes up the southeast section of the building, a part of the AIMD space that formerly occupied the eastern portion of Building 250. The Airframes Area consisted of a series of workshops associated with the repair and maintenance of the airframe. The Ordnance Area consisted of a series of offices and workshops that tested and repaired the bomb racks for the aircraft. The Power Plants Area consisted of a series of workshops associated with the repair, maintenance, and testing of the aircraft engine and propulsion systems.

The Avionics Area occupies the northeast section of the building, also a part of the AIMD space that formerly occupied the eastern portion of Building 250. The Avionics Area consisted of a series of workshops associated with the maintenance, repair, and testing of aircraft electronics, including communications, navigation, and display systems.

The building has no basement, but a subgrade utility tunnel is present, running east-west along the center line of the building. The tunnel is approximately 6 feet wide and 10.67 feet deep. Entrances to the utility tunnel are located at the east and west ends.

Except for environmental investigations and housekeeping, no activities have been conducted by the Navy in Building 250 and Hangar 4 since May 2011 when NAS Brunswick was closed. During the base closing, all chemicals were removed from the building and it was investigated under the base hazardous waste closure process to ensure no significant residual hazardous wastes remained.

HVAC is provided to Building 250/Hangar 4 by a combined system of hot-water heating and forced air systems based on available historical drawings and information provided by the Caretaker Site Office. A brief description of the HVAC systems is provided below.

Hangar 4 and large sections of Building 250 are heated by a hot-water heating system. Hot water supplied by boilers located on the west side of the hangar is circulated by an insulated supply line to wall-mounted air fan heating and ventilation units located in Hangar 4 (Navy, 1999). In addition, the system supplies hot water to baseboard heating units located throughout the building and along the Third Deck north and south walls. According to the Caretaker Site Office, when the building was occupied/operational, the hot-water heating system was usually activated for the winter heating season in September as daily temperatures fell and then deactivated in April/May as daily temperatures rose.

Additionally, spaces in Building 250 are heated and cooled and fresh air is supplied by roof top HVAC systems. Duct heaters located in the first floor mechanical room heats air distributed by ducts through the Building 250. Cooling is controlled by chilled water pumps in the air handling units. According to the historical drawings the computer controlled system has four operating settings: winter occupied, summer occupied, winter unoccupied, and summer unoccupied. When occupied the amount of air recirculated is determined by the system based on humidity and temperature of the return air (Navy, 1999).

Heating, cooling, and ventilation of the Third Deck portion of the building is provided by several roof top HVAC units. As discussed, the Hangar 4 hot-water heating system also supplies baseboard heat to the Third Deck.

Two buildings were formerly located within the parcel along Orion Street in what is now the parking lot of Building 250. Building 555 (the sonobuoy storage facility currently located south of Hangar 5) was moved to its current location circa 1983 (Tetra Tech, 2011e). Building 555 was at that time the AIMD maintenance and storage facility identified as one of the facilities on base where hazardous materials were stored (NEESA, 1983). One 2,000 gallon number two fuel oil underground storage tank (UST), installed in 1960 and removed in 1990 was associated with Building 555 according to the former NAS Brunswick UST database (NASB, 2010). A battery shop (former Building 231) was located east of Building 250 and north of Building 555 between 1958 and 1984. No specific information regarding hazardous material storage was discovered during records research.

A summary of the history and use of the other buildings located within the Building 250 Parcel is presented in the Work Plan (Tetra Tech, 2012a).

3.0 FIELD INVESTIGATION PROGRAM

The field program for the groundwater and VI investigation was conducted in three phases: 1) a groundwater screening investigation in May/June 2012; 2) a groundwater and VI investigation in September/October 2012; and 3) a VI investigation in May 2013, as summarized in the sections below. The table below lists the investigation activities conducted during each phase.

Building 250 Parcel Groundwater and VI Investigation Activities

Phase	Timeframe	Activities
1	May/June 2012	• Eight soil borings and temporary monitoring wells (MW-B250-01 through -08) were installed. • All eight wells were sampled for Target Compound List (TCL) VOCs and extractable petroleum hydrocarbons/volatile petroleum hydrocarbons (EPH/VPH). In addition, two wells (MW-B250-03 and MW-B250-07) were sampled for Target Analyte List (TAL) metals. • Groundwater levels were measured at the eight temporary monitoring wells (MW-B250-01 through -08) and at four additional existing monitoring wells (MW-09-001, MW-09-22, MW-09-224 and MW-09-227), located east and southeast of the Building 250 Parcel. • Floor drains in the building were screened. • Building floors were inspected for potential soil gas entry points (floor penetrations, foundation cracks and joints, etc.)
2	September/ October 2012	• Seven additional soil borings and temporary monitoring wells (MW-B250-09 through -15) were installed. • All fifteen temporary monitoring wells (MW-B250-01 through -15) were sampled for TCL VOCs. • Groundwater levels were measured at the fifteen temporary monitoring wells (MW-B250-01 through -15) and at ten additional existing monitoring wells (MW-H123-01S, MW-H123-01D, MW-H123-02, MW-NASB-226, NASB-B225-MW08, NASB-B225-MW09, MW-09-001, MW-09-22, MW-09-224 and MW-09-227), located north, east and southeast of the Building 250 Parcel. • Floor drains were screened in the building. • Indoor air samples were collected at 13 locations (AIR-1 through AIR-13).
2	September/ October 2012	• Sub-slab soil vapor samples were collected at 13 locations (SBS-1 through SBS-13). • Outside ambient air sample collected at designated outdoor location. • Utility tunnel air sample (AIR-14) was collected. • Floor drain vapor sample collection (AIR-15) was collected.

Building 250 Parcel Groundwater and VI Investigation Activities (continued)

3	May 2013	• Floor drain sealing (temporary). • Floor drain screening. • Indoor air samples were collected at 13 locations (AIR-1 through AIR-13). • Sub-slab soil vapor sampling at 13 locations (SBS-1 through SBS-13). • Ambient air sample collected at one outdoor location.

Utility clearance activities were undertaken prior to the initiation of the field investigation tasks. These activities, designed to clear proposed investigation locations of underground utilities, consisted of a notification to the State of Maine's Dig Safe system, coordination with the Navy Caretaker's Office, and procurement of a utility-locating service to further evaluate potential underground utilities in the vicinity of the Building 250 Parcel. Proposed soil boring and sub-slab soil gas locations were marked in the field (and adjusted as warranted) after the Dig Safe process, review by the Caretaker's Office, and the subsurface utility locate program were completed.

Although not part of the VI investigation, this report also documents the permanent sealing of 19 floor drains in Building 250 and Hangar 4 in October 2013 following the VI investigation, as discussed in Section 3.3.

3.1 GROUNDWATER INVESTIGATION

This section presents the field activities performed during the groundwater investigation at the Building 250 Parcel, which was conducted during the first two of the field program's three phases. The initial phase (May/June 2012) was a groundwater screening investigation conducted to determine if past releases at the Building 250 Parcel had impacted soil and groundwater quality, in accordance with the Work Plan (Tetra Tech, 2012a). The second phase (September/October 2012) supplemented the findings of the initial screening investigation and was conducted in accordance with the Work Plan (Tetra Tech, 2012a) and the Work Plan Addendum (Tetra Tech, 2012b).

The scope of work for both phases included: utility clearance; advancement of soil borings; collection of soil samples (if evidence of contamination was observed); installation, development and subsequent sampling of temporary monitoring wells; surveying of well locations; and measuring of groundwater levels.

3.1.1 Direct Push Soil Sampling, Well Installation and Development

The soil borings were advanced using a direct-push technology (DPT) Geoprobe® 6620 DT model drill rig. Prior to soil sampling at aircraft apron locations, a 6-inch-diameter core was drilled through the approximately 1- to 1.5-foot-thick concrete apron. Once concrete coring efforts were complete, soil cores were collected continuously, using a 1.5-inch inside diameter (ID) dual-tube sampler equipped with a 5-foot-long disposable acetate liner.

Soil samples were classified in the field by a Tetra Tech geologist according to the Unified Soil Classification System (USCS) and recorded onto the boring logs presented in Appendix A-1. Soil cores were initially screened using a photoionization detector (PID) for the presence of organic vapors using the jar headspace method. Results of jar headspace PID readings collected under this investigation were recorded onto the boring logs. Soil was screened at intervals of every 6 inches above the water table and every 12 inches below the water table. Soil retrieved from each soil boring was placed in a 55-gallon drum and stored in a designated area for subsequent characterization and disposal.

Each installed temporary well consisted of 1-inch ID Schedule 40 polyvinyl chloride (PVC) casing equipped with a 5- to 10-foot-long well screen (0.010-inch slot openings), depending on the thickness of the target monitoring zone. Monitoring well screens were surrounded by 20-40 grade "pre-pack" silica sand. The bottom of each well was completed with a flush-threaded bottom plug. Silica sand was placed 0.5 to 2 feet above the top of each well screen, followed by bentonite rock chips hydrated in place. A sand drainage layer was placed on top of the bentonite to approximately 1.5 to 2.0 feet below ground surface (bgs).

All temporary wells were finished with a flush-mount aluminum casing and a locking J-plug set in concrete, as these wells are located in mowed, paved or concrete areas susceptible to vehicle travel. Each temporary well was developed approximately 24 hours after well completion in order to remove any fine-grained sediments that may have been induced into the well during advancement and completion efforts and to enhance the hydraulic connection between the sand pack and the surrounding native formation. Wells were developed using a peristaltic pump until the turbidity level reached 10 nephelometric turbidity units (NTUs) or until 2 hours of well development elapsed, whichever occurred first.

During the initial phase, eight soil borings and temporary monitoring wells (MW-B250-01 through -08) were installed at locations illustrated on Figure 2. The rationale for each boring and monitoring well location and sampling is summarized in the Work Plan. No significant PID responses, staining or odors were observed during soil sampling activities; therefore, no soil samples were collected for laboratory chemical analysis, in accordance with the Work Plan (Tetra Tech, 2012a). Monitoring well screens were installed immediately above the silt/clay unit (Presumpscot Clay), as encountered during advancement of the borings. Monitoring wells MW-B250-04 and MW-B250-08 were completed in the lower portions of the Transition Unit, which consisted of fine sand and silt. Four wells (MW-B250-01, -03, -05 and -07) were completed intersecting the fine sand and silt unit of the Transition Unit and the fine sand in the lower portion of the Transition Unit, described as the Lower Sand Unit. The remaining two wells (MW-B250-02 and -06) were installed in the Lower Sand Unit.

During the second phase, seven additional soil borings and temporary monitoring wells (MW-B250-09 through -15) were installed from September 26 through 28, 2012, at locations illustrated on Figures 3 and 4. The rationale for each boring and monitoring well location and sampling is summarized in the Work Plan Addendum. The well screens of monitoring wells MW-B250-08 through MW-B250-12, MW-B250-14 and MW-B250-15, were installed at shallow depths to intersect the observed groundwater table. The well screen for MW-B250-13 was installed deeper, immediately above the silt/clay unit (Presumpscot Clay), after a minimum 4-foot-thickness of this unit was confirmed, as required by the Work Plan Addendum (Tetra Tech, 2012b). Shallow monitoring wells MW-B250-09, MW-B250-10, MW-B250-12, MW-B250-14, and MW-B250-15 were completed in the Upper Sand unit, which consisted of fine sand or fine sand with thin beds of silt and/or silt/clay. Shallow monitoring well MW-B250-11 and deeper monitoring well MW-B250-13 were installed in the Transition Unit, which consisted fine sand and silt with beds of silt/clay. Soil samples were not collected for laboratory analysis during the second phase because there was no evidence of soil contamination by visual observations and field screening.

The 15 temporary wells will be abandoned in accordance with MEDEP guidance after the investigation has been completed by the Navy and abandonment is agreed upon by MEDEP and the EPA.

A summary of well construction data and groundwater levels is presented in Table 1. Soil boring logs and well construction logs are provided in Appendix A-1 and Appendix A-2, respectively. Well development logs are provided in Appendix A-3.

3.1.2 Groundwater Sampling

All groundwater samples were collected following EPA low-flow purging and sampling procedures. Non-dedicated submersible bladder pumps were used for groundwater purging and sampling at each location. Pumps were decontaminated between each well in accordance with the Work Plan, and dedicated tubing was used at each temporary monitoring well.

Water level drawdown and flow rates were recorded on groundwater collection forms during temporary monitoring well purging efforts, as documented in Appendix A-4. For measurement of water quality field parameters, groundwater was pumped through a flow-through cell equipped with a YSI 650 water-quality instrument for pH, conductivity, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP) readings. The water quality instrument was calibrated according to the manufacturer's specifications and Standard Operating Procedure (SOP) GW-0001. Wells were purged until the water quality parameters stabilized and turbidity level reached stabilization or less than 5 NTUs as measured with a nephelometer. If turbidity and other field data stability criteria were not met after 2 hours of purging, groundwater samples were collected for subsequent laboratory analysis and reporting. Water quality measurements are provided in Appendix A-4.

During the first phase, groundwater samples (including one duplicate) were collected between June 6 and June 8, 2012 from the eight temporary wells (MW-B250-01 through -08) installed immediately above the silt/clay layer. A duplicate groundwater sample was collected from one monitoring wells (MW-B250-03) for quality control purposes. All eight wells were sampled for Target Compound List (TCL) VOCs and extractable petroleum hydrocarbons/volatile petroleum hydrocarbons (EPH/VPH). In addition, two wells (MW-B250-03 and MW-B250-07) were sampled for Target Analyte List (TAL) metals. The TAL metals analysis was included to evaluate potential impacts from the former battery shop located upgradient of these wells.

During the second phase, groundwater samples were collected from all fifteen temporary monitoring wells (MW-B250-01 through -15) between October 1 and October 3, 2012 for TCL VOCs. Duplicate groundwater samples were collected from two monitoring wells (MW-B250-01 and MW-B250-09) for quality control purposes.

The sample identifiers, sample collection depths, and the associated geologic unit for each well screen are summarized in Table 2. Well purge data sheets and groundwater sample logs are provided in Appendix A-4.

3.1.3 Well Surveying

The location and elevation of each installed monitoring well was surveyed by a Maine-licensed land surveyor (Spivey Surveying Services). Horizontal controls were determined to the nearest 0.01 foot at each data point, and reported based on the North American Datum 1983 (NAD83) West Zone Coordinate System. Vertical controls to the nearest 0.01 foot were established in accordance with National Geodetic Vertical Datum 1988. Elevation measurements were made at ground surface, the top of temporary well casings, and the top of the protective casing. The surveyed top of well casing and ground surface data are included in Table 1. Survey data are provided in Appendix B.

3.1.4 Water Level Gauging

Groundwater level measurements were gauged during both phases of the groundwater investigation. During the first phase, groundwater levels were measured on June 5, 2012 at the eight temporary monitoring wells (MW-B250-01 through -08) and at four additional existing monitoring wells (MW-09-001, MW-09-22, MW-09-224 and MW-09-227), located east and southeast of the Building 250 Parcel.

On October 1, 2012 groundwater levels were measured at the fifteen temporary monitoring wells (MW-B250-01 through -15) and at ten additional existing monitoring wells (MW-H123-01S, MW-H123-01D, MW-H123-02, MW-NASB-226, NASB-B225-MW08, NASB-B225-MW09, MW-09-001, MW-09-22, MW-09-224 and MW-09-227), located north, east and southeast of the Building 250 Parcel.

The depths to groundwater and associated groundwater elevations are summarized in Table 1.

3.1.5 Sample Analysis/Data Evaluation

Groundwater samples for chemical analysis were delivered to Tetra Tech's subcontracted analytical laboratory, Katahdin Analytical Services (Katahdin) in Scarborough, Maine, under a chain-of-custody form (provided as Appendix C-1). First phase groundwater samples were analyzed for TCL VOCs by EPA SW-846 Method 8260B (VOCs by Gas Chromatography/Mass Spectrometry), for VPH and EPH following Massachusetts Department of Environmental Protection (MADEP) guidelines. Also, MW-B250-03 and MW-B250-07 groundwater samples were analyzed for TAL metals by EPA Method 6020A/7470A. The second phase groundwater samples were analyzed for VOCs by EPA SW-846 Method 8260B. Analyses conducted during the sampling rounds are listed in Table 2. The analytical data generated by the groundwater investigation underwent Tier II validation. VOC exceedances are shown on Figure 5 and complete analytical results (detected and non-detected analytes) are included in Appendix C-2.

3.1.6 Investigation-Derived Waste

Investigation-derived waste (IDW) generated during the investigation included excess soil, groundwater and decontamination liquids. The IDW liquids and soil were containerized separately in sealed, labeled 55-gallon drums and transported to a storage container located in the Navy Caretaker's Office parking lot for temporary storage, awaiting full characterization and subsequent disposal.

3.2 VAPOR INTRUSION INVESTIGATION

The components of the VI investigation are summarized below, including the screening of floor drain vapors, and the collection and analysis of indoor air, sub-slab soil gas, one floor drain vapor sample, and one outdoor ambient air sample location. During the October 2012 activities, the building's hot-water heating system and HVAC systems were operating at settings to simulate typical season-specific ventilation and heating/cooling conditions for the building, the most representative scenario at the time of the sampling activities. The building's Hangar 4 large hot-water heating boilers and forced-air systems were activated on October 18, 2012, four days before the investigation began, to allow the air temperatures and air circulation patterns in the building to reach normal operational levels for that time period. The unoccupied Third Deck office space roof-top HVAC units were not operating.

In May 2013, the building's Hangar 4 hot-water heating was not operating having been deactivated earlier in the spring, which is consistent with the goal of simulating typical season-specific ventilation and heating/cooling conditions. The Building 250 forced-air HVAC system setting was unchanged from the October 2012 sampling event, however, the Third Deck office space roof-top HVAC units were operating.

During both sampling rounds, the hangar doors and all building windows and exterior doors were maintained in a closed position.

The table below provides the inside air and outside ambient air temperature ranges as measured at the air sampling locations during the October 2012 and May 2013 sampling rounds.

Location	Round 1	Round 2
Indoor Air Temperature Range (°F)		
Hangar 4	77 to 83	59 to 59
Original AIMD Area	70 to 74	59 to 68
AF/O/PP Area	70 to 74	59 to 60
Avionics Area	65 to 67	65 to 67
Outside Ambient Air Temperature Range (°F)		
Outside Air Sampling Station	43 to 59	50 to 52

As shown in the table above, during the second round without the hot-water system operating, inside air temperatures were lower except for the Avionics Area where temperatures were in the same range for both rounds. As the Hangar 4 hot-water heating system was not active during Round 2, the overall air circulation rate in the building would have been lower than that for Round 1 as the heating fan units in Hangar 4 provide ventilation to a significant portion of the structure.

3.2.1 Floor Drain Screening

Since vapor intrusion can potentially be associated with floor drains and associated piping, floor drains in Building 250 and Hangar 4 were screened for volatile vapors during the development of the Work Plan Addendum in September 2012, as well as prior to the indoor air sampling performed in both October 2012 and May 2013. As part of the initial floor drain screening, the building floor was inspected for openings that could serve as a soil gas entry or infiltration point, such as wall and floor penetrations for utility services, foundation cracks, and joints between foundation walls and floors. No significant potential soil gas entry points were observed.

Based on available drawings, 26 floor drains out of a total of 45 known drains in Building 250 and Hangar 4 discharge to the building's oil-water separator. These 26 drains are located in work areas situated in the Hangar 4/Original AIMD Area and the AF/O/PP Area. The floor drains are connected to the network of sewer pipes that drain interior floor and trench drains to the south, connecting to the east-west sewer main that flows east to the Building 250 and Hangar 4 oil-water separator located in the southeastern portion of the parcel. The oil-water separator discharges to the sanitary sewer system. The remaining 19 drains discharge directly to the sanitary sewer. No drains in the Avionics Area discharge to the oil-water separator. Drains serving shower and lavatory rooms in all three areas are connected to the sanitary sewer.

The initial drain screening was conducted on September 18 and 19, 2012 and was prior to the HVAC system activation. The screening was performed using a PID instrument equipped with a 10.6 electron volt (eV) lamp, which is appropriate for the VOCs detected during the previous screening investigation. Vapor readings were taken with the PID probe inlet at 1 to 2 inches above the drain surface at 42 floor drains and 2 trench drains (Figures 6, 7 and 8). Floor drain screening logs are provided in Appendix A-5. Drain screening results were used together with other available information during the selection of the locations for indoor air and sub-slab soil gas sampling.

During the second drain screening event, conducted on October 22, 2012 after the Building 250 and Hangar 4 HVAC systems had been activated, all floor drains were re-screened for volatile vapors to verify the initial screening results. In addition, a vapor sample was collected from floor drain FD02 in Room 155 of the AF/O/PP Area, the location of the maximum PID reading during floor drain screening (discussed below).

During the third floor drain screening event, conducted in May 2013, select floor drains were screened on May 3, 2013 and the floor drains in the Hangar 4 and Original AIMD Area and Avionics Area were screened on May 20, 2013. The 15 AF/O/PP Area floor drains were not screened as these drains were temporarily sealed on May 15, 2013, as discussed in Section 4.2.1. These floor drain screening results were compared to the results from the two previous screening events.

3.2.2 Air Sampling

To assess potential vapor intrusion of compounds to indoor air from subsurface volatilization, two 1-day sampling rounds for indoor air were conducted, on October 23, 2012 and on May 21, 2013. During both rounds, air samples were collected from the interior of the building at thirteen locations (B250-AIR1 through B250-AIR13), and in the October 2012 sampling round, one additional sample (B250-AIR14) was concurrently collected from the utility tunnel located beneath the building. The locations for the thirteen interior air samples were co-located at sub-slab soil gas sample locations and were spaced throughout the building to maximize the representativeness of the sampling results (Figures 6, 7, and 8). Every effort was made to locate samples a minimum of 10 feet from an outside wall in order to prevent ambient air from being drawn in from outside the building.

In March and April 2013, the Third Deck office space was renovated prior to reuse by a future tenant. The renovation work, which included painting, carpeting and tiling, was completed by April 19, 2013. There was a concern that off-gassing of volatiles from paint, adhesive and other materials used in the renovation would potentially impact the Building 250 indoor air quality, resulting in non-representative results for the planned May 2013 indoor air samples. As a precaution, 17 breathing zone indoor air PID readings were taken in select rooms in Building 250 and Hangar 4 and in select rooms in the Third Deck office space on May 3, 2013, with results presented in the table below.

Breathing Zone Indoor Air PID Readings PID Reading Taken on May 3, 2013

Area	Room No. / Description	Sample ID	PID Ambient[1] (ppm)
Avionics	Rm 109, at indoor air sample location AIR13	B250-AVIONICS-AA-01	0.1
Avionics	hallway, south of Rm 118, at indoor air sample location AIR 12	B250-AVIONICS-AA-02	0.1
AF/O/PP	Rm 151, at indoor air sample location AIR 8	B250-AF/O/PP-AA-01	0.1
AF/O/PP	Rm 161, at indoor air sample location AIR 11	B250-AF/O/PP-AA-02	0.1
AF/O/PP	Rm 155, at indoor air sample location AIR 6	B250-AF/O/PP-AA-03	0.1
H4	Hangar 4, at indoor air sample location AIR 2	B250-H4-AA-01	0.1
H4	storage room adjacent to Geedunk, at indoor air sample location AIR 5	B250-H4-AA-02	0.1
H4	bottom of stars to mezzanine	B250-H4-AA-03	0.1
3rd Deck	southwest staircase, top of landing (near Rm 310)	B250-3RD-DECK-AA-01	0.1
3rd Deck	common area (outside Rm 303)	B250-3RD-DECK-AA-02	0.1
3rd Deck	common area (in front of quarterdeck bridge)	B250-3RD-DECK-AA-03	0.1
3rd Deck	southeast staircase, top of landing (near Rm 302)	B250-3RD-DECK-AA-04	0.1
3rd Deck	east hallway (outside Rm 355)	B250-3RD-DECK-AA-05	0.1

Breathing Zone Indoor Air PID Readings PID Reading Taken on May 3, 2013 (continued)

Area	Room No. / Description	Sample ID	PID Ambient[1] (ppm)
3rd Deck	north hallway (outside Rm 345)	B250-3RD-DECK-AA-06	0.1
3rd Deck	northwest staircase, top of landing (near Rm 342)	B250-3RD-DECK-AA-07	0.1
3rd Deck	west hallway (outside Rm 333)	B250-3RD-DECK-AA-08	0.1
3rd Deck	northeast staircase, top of landing (near Rm 351)	B250-3RD-DECK-AA-09	0.1

Notes
1) Vapor readings taken with the PID probe inlet at breathing zone level.
Abbreviations
AA = ambient air reading
AF/O/PP = Airframes, Ordnance and Power Plants
H4 = Hangar 4 and Original AIMD Area
PID = photoionization detector
ppm = parts per million

As indicated in the table above screening of ambient air for total volatile vapors was seven locations which coincided with indoor air sample locations B250-AIR2, -AIR5, -AIR6, -AIR8, -AIR11, -AIR12, and -AIR13. The other locations were throughout the third deck and on the stairs leading from the Original AIMD Area to the third deck. All ambient air screening values were 0.1 parts per million (ppm), or background. As all readings were at background level (0.1 ppm), it was concluded that the renovation materials off-gassing would not impact the Round 2 indoor air sampling results.

During each of the two indoor air sampling rounds, one outdoor ambient air sample was collected from the same location, upwind and approximately 40 feet northwest of Building 250: AB102312 in October 2012 and AB052113 in May 2013. The outdoor ambient air samples were collected concurrently with the indoor air samples to determine the relative contribution of outdoor air to indoor air. Hourly site weather conditions recorded during the air sampling rounds are summarized in Table 3; as shown, the wind direction during the sample collection periods was recorded as west northwest to north.

Prior to sample collection, each location was screened with a PID to identify potential interference from other sources in the building. For those samples collected in a designated room, all doors were closed whenever possible during sampling. As discussed in Section 3.2.1, prior to the second indoor air sampling round, AF/O/PP Area floor drains were sealed using duct tape and plastic sheeting on May 15, 2013, approximately one week prior to the indoor air sampling round. Since the Navy would be permanently sealing these floor drains at a later date (as discussed in Section 3.3), the temporary sealing of these drains for the air sampling activities accurately simulated future conditions anticipated inside the building.

Each indoor air sample was collected in a pre-cleaned, laboratory-prepared, 6-liter Summa canister, a stainless steel vessel with internal surfaces specially passivated using a "Summa" process. The Summa process combines an electropolishing step with chemical deactivation to produce a chemically inert surface. The canister is prepared by evacuating the contents to a vacuum of approximately 30 inches of mercury (inches Hg). The Summa canisters were equipped with inline vacuum gauges and flow regulators calibrated to collect air samples over an 8-hour period. To avoid reaching atmospheric pressure in the canister at the end of the designated 8-hour sampling duration, the laboratory set the flow control orifice to a rate of approximately 9.5 milliliter per minute (ml/min), which is less than the nominal rate of 12.5 ml/min. Sample collection was stopped when the canister reached a vacuum of approximately 5 inches Hg. The Summa canister sample tube intake was placed approximately 5 feet above the floor level to collect the sample from the breathing zone (i.e., standing).

Summa canisters were labeled as the samples were being collected. Pertinent sampling information was recorded on the indoor air log sheet, including the sample identifier, date, and duration (start and stop time), the vacuum reading pre- and post-sampling, the canister and gauge identification/serial numbers, and the sampler’s name. A sketch of each sampling location was also prepared. Final vacuum readings for each Summa canister were recorded on the chain-of-custody form, which enabled the laboratory to compare the final vacuum with the receipt vacuum (i.e., the vacuum measured upon arrival at the laboratory). All air samples (Summa canisters) were dropped off at the laboratory, Katahdin, in Scarborough, Maine.

The field measurements recorded for indoor and outdoor air samples, including breathing zone PID reading, canister vacuum reading, temperature, and barometric pressure are provided in Appendix A-6. Sample collection log sheets and chain-of-custody forms are included in Appendix A-7 and Appendix C-1, respectively. Photographs of the air sampling train equipment are provided with this Technical Memorandum (photographs follow the figures).

3.2.3 Room 155 Floor Drain - Vapor Sampling

During the October 2012 round, at the request of MEDEP, one vapor sample (and duplicate) was collected from the interior of floor drain FD02 in Room 155 of the AF/O/PP Area, as a petroleum odor was noted in the drain during the initial PID screening of floor drains. The associated floor drain screening sample, B250-AIR15, exhibited a PID reading of 19.6 ppm, which was the highest reading for any of the floor drain screenings. Subsequent PID screening readings for this floor drain were 6.6 ppm (in October 2012) and 3.5 ppm (in May 2013). This floor drain is connected to the network of sewer pipes that flows east to the Building 250 and Hangar 4 oil-water separator, as discussed in Section 3.2.1.

The sample and duplicate were collected using the indoor air sampling procedure described in the section above. A Swagelock™ tee fitting was used to connect the two pieces of Teflon™ tubing from the (duplicate) canisters to a single intake tubing piece placed 3 inches inside the floor drain.

The field measurements recorded for the floor drain vapor sample, including PID reading (taken just above the drain), canister vacuum reading, temperature, and barometric pressure are summarized in Appendix A-6. The sample collection log sheet and associated chain-of-custody form are included in Appendix A-7 and Appendix C-1, respectively.

3.2.4 Sub-Slab Soil Gas Sampling

Two rounds of sub-slab soil gas sampling were conducted from the same thirteen locations (B250-SBS01 through B250-SBS13) from the interior of Building 250 and Hangar 4. The locations of the thirteen sub-slab soil gas samples were co-located with the locations of the interior air samples (Figures 6, 7, and 8). The first sampling round was conducted from October 24, 2012 through October 26, 2012; the second sampling round was from May 22 through May 23, 2013.

Collection of the sub-slab soil gas samples, including sub-slab sample point construction, was not begun until the completion of indoor air sample collection. Prior to drilling, all utilities were cleared at each of the soil gas sampling locations using ground penetrating radar (GPR) to avoid encountering piping and reinforcing bars within the concrete floor. The concrete floor slab was observed to be 6 to 8 inches thick at all sample locations, except for the three Hangar 4 sample locations (SBS1, SBS2 and SBS3), where the floor slab was found to be approximately 15 inches thick. After each sub-slab sample was collected, drilling dust was removed and holes patched with neat cement. The May 2013 samples were collected by drilling through the patched holes in the concrete that resulted from the October 2012 sampling activities, ensuring that the samples were taken from the exact same location during both sampling rounds.

The sample collection procedure for sub-slab soil gas was in accordance with MEDEP's SOP for Collecting Sub-Slab Soil Gas Samples, as described in the Work Plan Addendum (Tetra Tech, 2012b). To avoid reaching atmospheric pressure in the canister near the end of the designated 2–hour sampling duration, the laboratory set the air flow control orifice to a rate of approximately 45 ml/min, which is less than the 50 ml/min nominal rate. Sample collection was stopped when the canister reached a vacuum of approximately 5 inches Hg.

In accordance with the Work Plan Addendum, a leak test using helium as a tracer gas was performed prior to each sub-slab soil gas sample collection. The leak test verified that the seal around the soil gas sampling hole with the sample collection tube was airtight, preventing indoor ambient air from entering or being drawn into the hole.

Summa canisters were labeled as the samples were being collected. A sketch of each sample location was prepared and pertinent sampling information was recorded on the soil gas sample log sheets as described for air samples in Section 3.2.2. Final vacuum readings of each Summa canister were recorded on the chain-of-custody, which enabled the laboratory to compare the final vacuum with the receipt vacuum (i.e., the vacuum measured upon arrival at the laboratory). All soil gas samples (Summa canisters) were shipped to Katahdin by overnight courier in the packaging that was provided during the initial shipment.

For quality control purposes, duplicate samples were collected at the B250-SBS6 location in Room 155 during both sub-slab soil gas sampling rounds. The field measurements recorded for sub-slab soil gas samples, including PID reading at the sample hole, canister vacuum reading, temperature, and barometric pressure are summarized in Appendix A-6. Sample collection log sheets and chain-of-custody forms are included in Appendix A-8 and Appendix C-1, respectively. Photographs of the sub-slab soil gas sampling equipment are provided with this Technical Memorandum (photographs follow the figures).

3.2.5 Sample Analysis/Data Validation

All samples of indoor air, floor drain vapor, and sub-slab soil gas were analyzed for VOCs by Katahdin, using EPA Method TO-15, on a 7-day turnaround basis. Complete analytical results (detected and non-detected analytes) are included in Appendices C-2 through C-4.

The analytical data generated by the VI investigation underwent Tier II validation.

3.3 PERMANENT SEALING OF FLOOR DRAINS

Following the VI investigation, the Navy permanently sealed a total of nineteen floor drains in Building 250 and Hangar 4 to prevent possible unauthorized drain usage in the future when the building is under lease to others. On October 14 and 15, 2013, selected floor drains were permanently sealed in the Original AIMD Area (4 drains), in the AF/O/PP Area (14 drains), and in the Avionics Area (1 drain), as summarized below.

Permanently Sealed Floor Drains

Area	Room/Description	Drain
Original AIMD Area	170C	FD01
	172	FD01
	hallway adjacent to paint booth	FD01
	bathroom adjacent to paint booth	FD01

Permanently Sealed Floor Drains (continued)

Area	Room/Description	Drain
AF/O/PP	155	FD01, FD02 and FD03
	157	FD01
	158	FD01 and FD02
	159	FD01
	160	FD01, FD02, FD03, FD04
	161	FD01, FD02 and FD03
Avionics	109	FD01

The floor drain sealing procedure and other information related to the floor drain sealing activities are included in Appendix D. The locations of sealed floor drains are presented on a table and locations of the sealed drains are shown on figures. In addition, photographs of select sealed floor drains are presented in Appendix D. The drains that remain open are integral to the operation and maintenance of the building.

4.0 RESULTS

The following subsections present the results of the data collected during the groundwater investigation and the VI investigation conducted at the Building 250 Parcel in May/June 2012, September/October 2012, and May 2013.

4.1 GROUNDWATER INVESTIGATION RESULTS

The geology, groundwater occurrence and flow direction, and groundwater VOC concentrations observed during the groundwater investigation are presented below.

4.1.1 Geology

The findings of the groundwater investigation with respect to the geology of the Building 250 Parcel are consistent with the findings of the groundwater screening investigation (Tetra Tech, 2011e). The overburden consists of fine to medium sand (Upper Sand unit), underlain by interbedded fine sand and silt or clay (Transition Unit), fine sand (Lower Sand unit), and then silt/clay (Presumpscot Clay). Surface materials consisted of concrete up to 1.5 feet thick in the tarmac, approximately 3 to 5 inches of asphalt in paved areas, and approximately 3 to 6 inches of topsoil in grassy areas. The surface materials were underlain by fill that ranged from fine to medium sand (re-graded Upper Sand), fine sand/silt/clay, or sand/gravel (imported fill) that ranged from 0.5 to 3 feet thick. Fill was underlain by fine to medium sand with trace silt (Upper Sand) that ranged from 4 to 16 feet thick. The Upper Sand was underlain by fine sand containing silt, or silt/clay strata (Transition Unit) that ranged from 5 to 15 feet thick. The Upper Sand is absent in some areas around Building 250. A fine sand, interpreted as the Lower Sand unit, was present at the base of the Transition Unit. The Lower Sand unit was underlain by cohesive, moist to wet silt/clay (Presumpscot Clay) observed at several locations at depths from 39.5 to 56 feet bgs. The clay is considered to be low permeability unit in this area. Refusal was not encountered in any soil borings advanced during this investigation.

4.1.2 Groundwater Occurrence and Flow Direction

Depth to groundwater measurements and the associated elevations from the groundwater investigation are provided in Table 1.

A potentiometric surface elevation map for the deep groundwater zone generated from the initial phase data is presented as Figure 2. The depth to groundwater within the Building 250 Parcel varied from 4.48 to 8.46 feet bgs at the time of measurement on June 5, 2012. Groundwater elevations range from approximately 56 feet North American Vertical Datum of 1988 (NAVD88) in the north portion of the

Building 250 Parcel, to 47 feet NAVD88 south-southeast of the Building 250 Parcel. Groundwater flow was generally in a south-southeast direction across the Building 250 Parcel, which is consistent with the flow direction in nearby areas of the former base. Portions of Site 9 are located downgradient of the Building 250 Parcel.

Data from the second phase of the groundwater investigation were used to generate potentiometric surface maps for both shallow and deep groundwater zones, presented as Figures 3 and 4, respectively. The depths to groundwater within the Building 250 Parcel and surrounding areas to the north, east, and south varied from approximately 4 to 10 feet bgs, as measured on October 1, 2012. Groundwater head elevations ranged from approximately 59 feet NAVD88 in the area north of the Building 250 Parcel to approximately 45 feet NAVD88 in the area south-southeast of the parcel. Groundwater flow was generally south-southeast across the Building 250 Parcel, which was consistent with the groundwater flow direction in nearby areas of former NAS Brunswick. The groundwater flow pattern for the deep groundwater zone was similar to the shallow zone and consistent with the flow observed in June 2012. The groundwater head elevations measured in the deep zone were similar to slightly higher than the shallow zone, with elevations of up to 1 foot higher observed.

4.1.3 Groundwater Investigation Analytical Results

Groundwater analytical results were compared to the EPA Maximum Contaminant Levels (MCLs) (EPA, 2012a) and the Maine Remedial Action Guidelines (RAGs) for Residential Groundwater (MEDEP, 2013). The minimum value screening criterion for each analyte was used as the project screening level (PSL). The MEDEP does not have groundwater target levels for purposes of screening groundwater contaminant concentrations for VI potential. A summary of the groundwater sampling results is presented below. VOC exceedances of MCLs/RAGs during the June 2012 and October 2012 sampling events are shown on Figure 5.

June 2012 Sampling Round (8 wells)

- The chlorinated VOC, TCE, was detected in six of the eight wells sampled. TCE is a solvent that was used in the building when it was operational, and is also a degradation product of PCE, discussed below. TCE concentrations exceeded the RAG (4 micrograms per liter [µg/L]) and the MCL (5 µg/L) in three monitoring wells: two wells located downgradient (south) of Building 250 and Hangar 4 (MW-B250-01 [11 µg/L] and MW-B250-02 [6.1 µg/L]) and one well located upgradient (north) of the building (MW-B250-04 [6.8 µg/L]), and also upgradient of MW-B250-02.

- Cis-1,2-dichloroethene (c-1,2-DCE), a degradation product of TCE, was detected in all eight wells at low concentrations, ranging from 0.58 µg/L to 12 µg/L, although the RAG (20 µg/L) and MCL (70 µg/L) were not exceeded at that time. (It is noted that the MEDEP revised the MEG for c-1,2-DCE from 20 to 10 µg/L on October 19, 2012, following the July 2012 submittal of the Technical Memorandum. The maximum detection of c-1,2-DCE, 12 µg/L at MW-B250-05, exceeds the RAG, based on the updated value currently in effect.)

- Based on sampling reports related to IRP Site 9, TCE and total 1,2-dichloroethene (including c-1,2-DCE) have historically been present at levels fluctuating between 2 and 5 µg/L in monitoring wells located to the east and southeast of Building 250-Hangar 4, at MW-09-204, -227, and -001, located along Orion Street (north to south) (H&S, 2011).

- PCE, also a chlorinated VOC, was detected in two wells downgradient (south) of Building 250-Hangar 4 at concentrations of 0.56 and 2.0 micrograms per liter (µg/L). The RAG of 0.6 µg/L, which was in effect at that time, was exceeded at one well, MW-B250-01 (2 µg/L). The MCL of 5.0 µg/L was not exceeded. (On October 19, 2012, the MEDEP revised the RAG for PCE from 0.6 to 40 µg/L; therefore, PCE does not exceed the RAG or MCL based on current criteria.)

- The EPH/VPH hydrocarbon fractions were not detected, with the exception of the VPH C5-C8 aliphatics hydrocarbon fraction reported in one well, MW-B250-01, located downgradient of Building 250. The VPH detection was 64 µg/L, well below its RAG of 300 µg/L.

- Manganese exceeded the RAG of 500 µg/L in samples collected from MW-B250-03 (5,520 and 5,180 µg/L [duplicate sample]) and MW-B250-07 (1,320 µg/L), both located in the southeast portion of the Building 250 parcel. An MCL for manganese has not been established. In groundwater samples collected from within the Transition and Lower Sand Units of the subsurface (corresponding to these wells), the background 95 percent Upper Prediction Limit (UPL) of the average concentration is 547 µg/L for total manganese and 432 µg/L for dissolved manganese; therefore, the manganese groundwater concentrations exceed NAS Brunswick background concentrations and RAGs. However, natural geochemical conditions (acidic pH, negative ORP, and low DO) at the sampling locations favor elevated dissolved manganese concentrations.

- Sodium exceeded the RAG of 20,000 µg/L in the same samples that exceeded for manganese - at MW-B250-03 (30,550 µg/L, average of duplicate samples) and MW-B250-07 (20,200 µg/L); there is no MCL for sodium. The background 95 percent UPL for total sodium in Transition and Lower Sand Units groundwater is 31,600 µg/L, and for dissolved sodium it is 31,200 µg/L;

therefore, sodium concentrations in these samples do not exceed applicable NAS Brunswick background levels.

October 2012 Sampling Round (15 wells)

Analytical results for detected VOCs in the groundwater samples (including two duplicate samples) collected from the fifteen temporary wells during the groundwater investigation are provided in Table 4. The EPA MCLs and Maine RAGs for each detected compound are also provided in Table 4, which also indicates the minimum value that was selected as the comparison criterion for each compound. Exceedances of the MCLs and RAGs are depicted on Figure 5. The complete analytical results are included in Appendix C-2. A summary of the analytical results is presented below:

- PCE was detected at three sample locations and all results were below the RAG of 40 μg/L and the MCL of 5 μg/L. All monitoring wells with PCE detections were located either near the center of the Building 250 Parcel or west of the center. The wells and associated concentrations of PCE are listed here: MW-B250-01 (2.7 μg/L and 2.2 μg/L [duplicate sample]), MW-B250-10 (1.8 μg/L), and MW-B250-13 (2.8 μg/L). These results are consistent with the June 2012 sampling event results, during which low-level concentrations of PCE were only detected in at MW-B250-01 (2 μg/L) and MW-B250-02 (0.56 μg/L). PCE was not detected in MW-B250-02 during the October sampling event.

- TCE, a solvent which can be a degradation product of PCE, was detected at eight sample locations, including two of the three wells where PCE was detected. The TCE concentrations ranged from 0.43 to 14 μg/L, and exceeded the RAG of 4 μg/L and the MCL of 5 μg/L in four locations. These locations and associated TCE concentrations are: MW-B250-01 (10 μg/L and 10 μg/L [duplicate sample]), MW-B250-02 (8.2 μg/L), MW-B250-04 (8 μg/L), and MW-B250-13 (14 μg/L). These results are consistent with those of the June 2012 sampling event, during which TCE was detected above the criteria at MW-B250-01 (11 μg/L), at MW-B250-02 (6.1 μg/L), and at MW-B250-04 (6.8 μg/L).

- c-1,2-DCE, a degradation product of TCE, was detected at eight sample locations at concentrations ranging from 0.26 to 15 μg/L (Table 4). Seven of the wells with c-1,2-DCE are deep monitoring wells installed in June 2012, while the other detection was reported for a deep well (MW-B250-13) installed in October 2012. All samples were below the MCL of 70 μg/L, and only one sample exceeded the RAG of 10 μg/L, with a result of 15 μg/L at MW-B250-05. TCE was present at seven of the eight locations where c-1,2-DCE was detected. These results are consistent with the June 2012 sampling event results, during which c-1,2-DCE was detected in all eight of the deep wells installed in June 2012. In October 2012, c-1,2-DCE was not detected in MW-B250-08, which had a trace level (0.58 µg/L) of c-1,2-DCE in the June 2012 sampling event.

- A trace level of chloroform (0.88 µg/L) was detected at sample location MW-B250-04, well below the MCL and RAG values of 80 and 70 µg/L, respectively.

- As noted in Section 2, TCE and total-1,2-dichloroethene (including c-1,2-DCE) have historically been present at levels that have fluctuated between 2 and 5 µg/L in monitoring wells located to the east and southeast of Building 250-Hangar 4, at MW-09-204, -227, and -01, located along Orion Street (north to south) (H&S, 2011). In addition, TCE and 1,2-dichloroethene have previously been detected in groundwater upgradient of the Building 250 Parcel, including monitoring well MW-H123-02 (Figure 5) at concentrations of 12 and 10 µg/L, respectively (Tetra Tech, 2011e).

4.2 VAPOR INTRUSION INVESTIGATION RESULTS

This section presents the results of the VI investigation, which consisted of the following activities:

- floor drain screening
- sub-slab soil gas sampling
- indoor air sampling
- floor drain vapor sampling

The indoor air sampling and floor drain vapor sampling activities were conducted prior to the sub-slab soil gas sampling to avoid potential contamination of indoor air. The sub-slab soil gas results are discussed before the indoor air results, as a VI investigation is typically a stepped process during which the soil gas survey is conducted prior to the indoor air investigation.

4.2.1 Floor Drain Screening

Positive PID readings from all rounds of floor drain screening are presented in the table below, with complete results in Appendix A-5. As the PID screening instruments have detection limits in the "ppm" range, the readings provide only an indication of total volatile vapors.

As shown in the table, all but one of the readings (which was recorded in the first round) are low-level values. During the initial floor drain screening (September 18 and 19, 2012), seven readings were 1.0 ppm or less, and four readings were between 1.0 and 5.6 ppm. The 10 ppm range was exceeded in only one reading, in only the first event: the maximum value recorded, 19.6 ppm, was from a floor drain located in the engine rebuild room (Room 155) of the AF/O/PP Area. Eleven of the twelve positive readings were recorded at drains in rooms located in the AF/O/PP Area (southeast section of Building 250). No positive PID readings were recorded at drains in the Hangar 4 Area, and only one drain in the Avionics Area (Room 109) had a positive PID reading.

Floor Drain Screening - Positive PID Readings

Area	Room Number and Former Use	Drain Identifier	PID Reading (1)(2) (ppm) 9/18-19/2012	PID Reading (2)(3) (ppm) 10/22/2012	PID Reading (2) (ppm) 5/03/2013	PID Reading (2)) (ppm) 5/20/2013
Avionics	109 - lead acid battery	B250-109-FD01	1.4	3.3	0.2	0
AF/O/PP	145 - X-ray developer	B250-145-FD01	1.0	0.0	NS	NS
	155 - power plants/engine rebuild	B250-155-FD02	19.6	6.6	3.5	NS
		B250-155-FD03	0.6	0.2	NS	NS
	157 - propeller shop test cell	B250-157-FD01	0.4	0.0	NS	NS
	160 - reduction gear housing maintenance	B250-160-FD01	1.6	0.2	NS	NS
		B250-160-FD02	0.2	0.4	NS	NS
		B250-160-FD03	3.0	0.0	0.2	NS
		B250-160-FD04	0.2	0.0	NS	NS
	161 - airframes shop	B250-161-FD01	0.3	0.0	NS	NS
		B250-161-FD02	5.6	0.0	0.1	NS
		B250-161-FD03	0.2	0.0	NS	NS

Notes:
(1) Initial PID readings taken prior to activation of the Building 250 and Hangar 4 HVAC systems (activated on October 18, 2012).
(2) PID readings were taken with the probe inlet at 1 to 2 inches above the drain surface.
(3) These PID readings taken after the Building 250 and Hangar 4 HVAC systems were activated on October 18, 2012.
PID photoionization detector
ppm parts per million
AF/O/PP Air Frames/Ordnance/Power Plants
NS not screened

The second round of floor drain screening was conducted one month later, in October 2012, and after the Building 250 and Hangar 4 HVAC systems were activated on October 22, 2012. All floor drains were re-screened with a PID to verify the initial screening data. As shown in the table below, the second round of screening resulted in only five positive floor drain readings: three of the five readings were lower than those from the initial round, and the former maximum reading from Room 155 (FD02) decreased from 19.6 to 6.6 ppm. This decrease in most of the floor drain screening results may be attributable to the

Building 250 and Hangar 4 HVAC systems being active, possibly resulting in the dispersion of the low-level vapors in the floor drains.

The third round of drain screening, conducted on May 3, 2013, included screening at the four floor drains where the highest readings had been identified in the first round. The PID readings were all lower than the initial round, and the maximum reading at Room 155 (FD02) further decreased, from 6.6 to 3.5 ppm. The HVAC system would not normally have been operating in May; therefore, it was not operating during this third round of floor drain screening, in order to best simulate actual conditions of the building during normal operations at this time of year.

It is also noted that, based on the September and October 2012 floor drain screening results discussed above, the MEDEP requested that the Navy consider plugging floor drains that discharge to the oil-water separator in order to prevent potential vapor intrusion to the building. As the Navy is concerned about future unauthorized drain usage in Navy-leased buildings, the Navy made plans to permanently seal selected building floor drains (see Section 3.3). On May 15, 2013, prior to the second round of indoor air sample collection, temporary seals were installed on 15 floor drains in the AF/O/PP Area, as listed in the table below, and located on Figure 7. The temporary seals were accomplished by duct-taping a section of heavy-duty plastic over the drain. With the exception of Room 145 [FD01], the Navy replaced these temporary seals with permanent floor drain seals in October 2013, as discussed in Section 3.3.

Sealed AF/O/PP Area Floor Drains

Room	Drain
145	FD01
155	FD01, FD02 and FD03
157	FD01
158	FD01 and FD02
159	FD01
160	FD01, FD02, FD03, FD04
161	FD01, FD02 and FD03

4.2.2 Sub-Slab Soil Gas Sampling Results

Two rounds of sub-slab soil gas samples were collected in Building 250 from 13 locations (SBS1 through SBS13) during the period between October 24, 2012 and October 25, 2012 (Round 1) and between May 22, 2013 and May 23, 2013 (Round 2). The sub-slab soil gas samples were co-located at the 13 indoor air sample locations (Figures 6, 7 and 8) and were spaced throughout the building to maximize their representativeness of the entire building. Laboratory analytical results for detected VOCs in the sub-slab soil gas samples are provided in Table 5.

The results were evaluated by comparison to soil gas targets (SGTs) developed by dividing the minimum value of the EPA Industrial Air Regional Screening Levels (RSLs) and Maine RAGs for Indoor Air Commercial Targets by an attenuation factor of 0.02, in accordance with the MEDEP Vapor Intrusion Evaluation Guidance (MEDEP, 2010). SGTs for Maine Chronic Commercial and Subchronic Commercial Indoor Air Targets (IATs), the previous RAGS, were provided on the table for comparison. Exceedance of an SGT indicates the potential for VI that necessitates further evaluation of the pathway. Criteria exceedances are depicted on Figures 6 through 8. Complete analytical results are included in Appendix C-3.

Round 1

A total of 30 VOCs were detected during the analysis of sub-slab soil gas samples from Round 1, but only two VOCs were reported at levels that exceed their respective SGTs. (For purposes of this report, m+p-xylenes, o-xylenes, and total xylenes are counted as one compound.) Six of the 30 detected VOCs were detected in all 13 samples. These six compounds include: 2-butanone (methyl ethyl ketone); 4-methyl-2-pentanone (methyl isobutyl ketone); acetone; dichlorodifluoromethane; PCE; and trichlorofluoromethane. Acetone and 2-butanone are industrial solvents that were used in Hangar 4 when it was operational. These chemicals are also common laboratory contaminants and their detection may not be site-related.

TCE, which was also detected in both upgradient and downgradient groundwater samples, was reported in 9 of the 13 sub-slab soil gas samples at concentrations ranging from 0.12 microgram per cubic meter (μg/m^3) to 31 μg/m^3; however, the TCE SGT (150 μg/m^3) was not exceeded in any of the samples. Sub-slab soil gas sample TCE concentrations are shown on Figures 6, 7 and 8. The maximum TCE concentration in sub-slab soil gas was detected in SBS12, located in the southwestern portion of the Avionics Area (Figure 7).

Two compounds, PCE and chloroform, were detected at levels that exceed their respective SGTs, as discussed below.

PCE was detected in all 13 sub-slab soil gas samples at concentrations ranging from 10 to 6,000 μg/m^3; however, the PCE SGT (2,350 μg/m^3) was exceeded at only 1 of the 13 location, at SBS-5. Sample location SBS-5 is located in the southern portion of the Original AIMD Area. The PCE concentration at SBS-5 (6,600 μg/m^3) significantly higher than the next highest PCE concentration (740 μg/m^3), which was located at SBS-2. Sample location SBS-2 is in Hanger 4 approximately 180 feet west of SBS5.

Chloroform was detected in 11 of the 13 sub-slab soil gas samples at concentrations ranging from 0.54 to 31 μg/m^3; however, the chloroform SGT (26.5 μg/m3) was exceeded at only one location, at SBS12, located in the southwestern portion of the Avionics Area (Figure 8). The concentrations of chloroform in the remaining 10 samples in which it was detected were well below the SGT, and ranged from 0.54 μg/m^3 to 3.9 μg/m^3.

In addition to PCE and TCE that were detected in both sub-slab soil gas and groundwater, as noted above, the following four VOCs were also detected in both media: bromomethane, chloroform, cyclohexane, and dichlorodifluoromethane. The locations and levels of these VOCs in these two media are discussed below.

- Bromomethane was detected at a low level of 3.3 μg/L in only one monitoring well, MW-B250-02, located immediately south of the western portion of the AF/O/PP Area, and downgradient of this area. Bromomethane was also detected at a low level of 0.34 μg/m^3 in one sub-slab soil gas sample, SBS9, located in Room 138 of the AF/O/PP Area, almost directly north and upgradient of MW-B250-02.

- Chloroform was detected at low levels of 0.73 and 0.88 μg/L in duplicate samples from only one monitoring well, MW-B250-04, located northwest (upgradient) of the Avionics Area. Chloroform was also detected in several sub-slab soil gas samples, including the maximum detection of 31 μg/m^3 at SBS12, which is located in the southwestern portion of the Avionics Area and downgradient of MW-B250-04.

- Cyclohexane was detected at a trace level of 0.52 μg/L in only one monitoring well, MW-B250-05, located north (upgradient) of the Avionics Area. Cyclohexane was also detected at a low level in only one soil gas sample, SBS5, located in the southeastern portion of the Hangar 4/Original AIMD Area.

- Dichlorodifluoromethane (Freon-12) was detected at a trace level of 0.4 μg/L in only one monitoring well, MW-B250-04, located northwest (upgradient) of the Avionics Area and north of the Hangar 4/Original AIMD Area. This compound was also detected in all 13 sub-slab soil gas samples.

The VOC, c-1,2-dichloroethene, was also detected in groundwater samples from all of the deep monitoring wells, but was not detected in sub-slab soil gas samples.

Round 2

A total of 27 VOCs were detected during the analysis of the 13 sub-slab soil gas samples from Round 2, with VOCs detected in all samples. One VOC, PCE, was detected above the SGT concentration of 2,350 μg/m^3. There were six VOCs that were detected in all 13 samples, including acetone, carbon disulfide, chloroform, dichlorodifluoromethane, PCE and trichlorofluoromethane.

TCE was detected above laboratory reporting limits in 12 of the 13 sub-slab soil gas samples. The concentrations ranged from 0.091 μg/$m^3$to 22 μg/m^3 and the TCE SGT (150 μg/m^3) was not exceeded in any of the samples. The maximum concentration of TCE in sub-slab soil gas was detected at SBS12, which is the same location the maximum concentration occurred during the first round of soil gas sampling. Sub-slab soil gas sample TCE concentrations are show on Figures 6, 7, and 8.

PCE was detected in all 13 sub-slab soil gas samples at concentrations ranging from 1.6 to 5,900 μg/m^3, however, only the maximum detection, at SBS5, exceeded the PCE SGT. Sample location SBS5 is in the southern portion of the Original AIMD Area, as shown on Figure 6. This maximum PCE concentration, 5,900 μg/m^3, is significantly larger than the next highest concentration, 680 μg/m^3, which occurred at SBS2, located approximately 180 feet west of SBS5 in Hanger 4.

In addition, chloroform and dichlorodifluoromethane were detected in the previous groundwater sampling round and were also detected in the Round 2 sub-slab soil vapor samples. The compounds bromomethane, cyclohexane and cis-1,2-dichloroethene, that were previously detected in groundwater and the Round 1 sub-slab soil vapor samples, were not detected in sub-slab soil vapor during the Round 2 sampling round.

- Chloroform was detected at low levels in one well upgradient of the Avionics Area in the previous groundwater sampling round. In the most recent soil vapor sampling, chloroform was detected at low levels in all samples, with concentrations ranging from 0.38-7.8 μg/m^3. The highest concentration was at sample location SBS-12, which is located in the Avionics Area.
- Dichlorodifluoromethane (Freon-12) was detected at low levels in one location during the previous groundwater sampling round. The well was located upgradient of the Avionics Area and cross-gradient of the Hangar 4/Original AIMD Area. This compound was detected in all 13 soil gas samples, at a concentration range of 2.1 to 5,300 μg/m^3. The highest concentration was detected at sample location SBS-5, which is located in the southern portion of the Original AIMD Area.

Summary

Four VOCs were detected in all sub-slab soil gas samples from both sampling rounds, including acetone, dichlorodifluoromethane, PCE and trichlorofluoromethane. In Round 1, there were two exceedances of the SGTs, at SBS-5 and SBS-12, for PCE and chloroform, respectively. In Round 2, there was one exceedance of an SGT, at SBS-5 for PCE. There was a significant decrease in PCE and chloroform at both these respective locations. Overall between Round 1 and Round 2, there was either a significant decrease or stable levels of VOC concentrations in sub-slab soil gas.

In summary, while many VOCs were detected in the sub-slab soil gas samples, several were detected infrequently, and the majority of the compounds that were detected frequently were present at low levels, well below their respective SGTs. The comparison of groundwater and sub-slab soil gas sampling results from Round 1 shows that only PCE and TCE are present in both media in significant numbers of samples. While exceedances of the MCL/RAG groundwater criteria for TCE occur both upgradient and downgradient of Building 250, and for c-1,2-DCE, upgradient of Building 250, TCE soil gas concentrations were below its SGT, and c-1,2-DCE was not present in soil gas. In soil gas in Round 1, only two VOCs, PCE (in one sample) and chloroform (in one sample), were detected at levels that exceed their respective SGTs. The PCE SGT exceedance was at a location in the Original AIMD Area, the oldest section of Building 250, while the chloroform SGT exceedance was at a location in the Avionics Area. In Round 2, only PCE exceeded the SGT, at the same location as in Round 1.

As only low levels of seven VOCs were detected in groundwater during the June 2012 and October 2012 rounds, the saturated zone does not appear to be the source of most of the VOCs detected in the soil gas underlying Building 250. Although no specific spill locations have been identified at the Building 250 Parcel, it is possible that small quantities of solvents, fuels or other volatile chemicals were released in or around Hangar 4 during its 54 years of operation, and may have migrated to the subsurface via construction joints and cracks in the building's floor slab, resulting in SGT exceedances at the four locations, as discussed above.

Soil gas PCE concentrations at one location in the Original AIMD Area and a soil gas chloroform concentration at one location in the Avionics Area in excess of their respective SGTs justified the indoor air phase of the VI investigation during Round 1. Soil gas PCE concentrations at one location in the Original AIMD Area in excess of the SGT justified the indoor air phase of the VI investigation during Round 2.

4.2.3 Indoor Air Sampling Results

Indoor air samples (AIR1 through AIR13) were collected from 13 locations in Building 250 and Hangar 4 on October 23, 2012. A utility tunnel air sample (AIR14) and an outdoor ambient air sample (AB102312) were collected concurrently with the indoor air samples in Round 1 and an outdoor ambient air sample (AB052113) was collected from the same location again in Round 2. In addition, a floor drain vapor sample (AIR15) was collected concurrently with the indoor air samples in Round 1, as discussed in Section 4.2.54. The indoor air sample locations were co-located at the thirteen sub-slab soil gas sample locations (Figures 6, 7 and 8) which were spaced throughout the building to maximize their representativeness of the entire building. Building 250 has been inactive since April 2010 and all chemicals formerly in use at the building were removed as part of the building layup process. Therefore the direct indoor air sampling results would not reflect any active chemical use at the time of sampling.

Analytical results for detected VOCs in the indoor air and utility tunnel air samples are provided in Table 6 and the results for the outdoor ambient air are provided in Table 7. The data were evaluated by comparison to the minimum value of the EPA Industrial Air RSLs and Maine RAGs for Indoor Air Commercial targets, in accordance with the MEDEP Vapor Intrusion Evaluation Guidance (MEDEP, 2010). For informational purposes, Tables 7 and 8 also provide residential indoor air background (50th percentile) and Maine statewide outdoor ambient air average values, respectively (MEDEP, 2010). For comparison, the former RAGs are provided on both tables. Table 8a and Table 8b show the October 2012 and May 2013 sub-slab soil gas and indoor air results, respectively, on the same table for comparison. Complete analytical results are included in Appendix C-4.

Round 1

A total of 25 VOCs were detected in the indoor air samples, however, none of the concentrations exceeded their respective minimum IATs/RSL values. Fourteen of these compounds were detected in all 13 samples, including acetone and 2-butanone, which are common laboratory contaminants, and which were also used in Building 250 and Hangar 4 when it was operational. The detections of these two compounds in the indoor air samples may not be site-related.

PCE, which was detected in all 13 sub-slab soil gas samples in Round 1 at concentrations ranging from 10 to 6,000 μg/m^3, was detected at 10 indoor air sample locations. Indoor air concentrations of PCE ranged from 0.12 to 0.68 μg/m^3, below its minimum IATs/RSL value of 47 μg/m^3. Indoor air sample PCE concentrations are shown on Figures 6, 7 and 8. In addition, all indoor air sample PCE concentrations are less than the associated residential indoor air background (50th percentile) PCE concentration of 1.4 μg/m^3 (MEDEP, 2010). PCE was detected at only a low concentration in the indoor air sample that was collocated at the location where the sub-slab soil gas sample (SBS5) exceeded the SGT for PCE, as shown in the table below. Sample SBS5 is located in the Original AIMD Area where the floor slab is approximately 8 inches thick. For the maximum indoor air PCE concentration (0.68 μg/m^3 at AIR9) the corresponding soil gas sample PCE concentration was 100 μg/m^3.

PCE Concentrations in Co-Located Sub-Slab Soil Gas and Indoor Air Samples

Sample ID	Area	Location	C_{IA} (PCE Indoor Air Concentration [μg/m^3]) (2)	C_{SG} (PCE Sub-Slab Soil Gas Concentration [μg/m^3]) (1)	Sub-Slab Soil Gas Attenuation Factor (AF)(C_{IA}/C_{SG})
AIR1/SBS1	H4/ Orig. AIMD	H4 NW section	0.42 U	130	--
AIR2/SBS2	H4/ Orig. AIMD	H4 SW section	0.42 U	740	--
AIR3/SBS3	H4/ Orig. AIMD	H4 - adjacent to eastern wall, central portion	0.2 J	56	0.0036
AIR4/SBS4	H4/ Orig. AIMD	NW area - Rm 173	0.42 U	54	--
AIR5/SBS5	H4/ Orig. AIMD	southeastern section (storage room)	0.18 J	**6,000**	0.000027
AIR6/SBS6 (3)	AF/O/PP	southern central area – Rm 155	0.12 J	24.5	0.0049
AIR7/SBS7	AF/O/PP	SE section – Room 160	0.15 J	34	0.0044
AIR8/SBS8	AF/O/PP	NE section - Rm 151	0.12 J	17	0.0071
AIR9/SBS9 (4)	AF/O/PP	northwestern corner - Room 138	0.68 J	100	0.0068
AIR10/SBS10	AF/O/PP	eastern section - Room 157	.0.1 J	20 J	0.0050
AIR11/SBS11	AF/O/PP	SW section - Rm 161	0.12 J	26	0.0046
AIR12/SBS12	Avionics	SW section – southern hallway	0.16 J	31	0.0052
AIR13/SBS13	Avionics	NW area – Rm 109	0.66 J	10	0.0660
				Minimum	0.000027
				Maximum	0.066
				Mean	0.011

(1) Minimum Indoor Air Industrial RSL/ Commercial IAT: 47 μg/m^3
(2) PCE Soil Gas Target (SGT): 2,350 μg/m^3 : values greater than SGT indicated by bold font
(3) PCE sub-slab soil gas concentration is average of duplicate results
(4) Location of maximum indoor air PCE concentration

The PCE soil gas concentration exceeding the SGT was located in the Original AIMD Area where the floor slab is approximately 15 inches thick. The sub-slab soil gas attenuation factor (AF) for PCE (PCE indoor air concentration / PCE sub-slab soil gas concentration) was calculated for each of the ten co-located sample locations where PCE was detected in the indoor air sample. The location-specific PCE sub-slab soil gas AF values range from 0.000027 (AIR5/SBS5) to 0.066 (AIR13/SBS13), with the mean AF for the ten locations at 0.011. These values are comparable to the mean PCE sub-slab soil gas AF value of 0.0086, and range of 0.000025 to 0.35 reported by an EPA evaluation of chemical-specific AFs for seven residential VI sites (EPA, 2012b).

For the outdoor ambient air sample, AIRAB102312, a total of 13 VOCs were detected, including PCE, and each was also detected in the indoor air samples. The common laboratory contaminants, acetone and 2-butanone, were among the compounds detected in the outdoor ambient air sample, and the detection of these compounds may not be site-related. As previously noted both chemicals were used in the building when it was operational. The table below compares the concentrations of VOCs detected in the upgradient, outdoor ambient air sample with the range of concentrations detected in indoor air samples. The Maine statewide outdoor ambient air averages (MEDEP, 2010) are also provided for information purposes only.

Outdoor Ambient Air Sample Volatile Organic Compound Comparison – Round1

VOCs Detected in Outdoor Ambient Air Sample (AB102312)	CAS Number	Outdoor Ambient Air Sample (AB102312) ($\mu g/m^3$)	Statewide Outdoor Ambient Air Average ($\mu g/m^3$)[1]	Indoor Air Samples Minimum ($\mu g/m^3$)	Indoor Air Samples Maximum ($\mu g/m^3$)
1,1,2-trichlorotrifluoroethane	76-13-1	0.48 J	--	0.44 J	0.55 J
2-butanone	78-93-3	1.4	2.26	0.47	1.7
4-methyl-2-pentanone	108-10-1	0.35 J	0.37	0.27 J	0.66
acetone	67-64-1	15	--	3.8	5.7
benzene	71-43-2	0.24 J	0.83	0.22 J	0.3 J
carbon disulfide	75-15-0	0.47 J		0.084 J	0.47
carbon tetrachloride	56-23-5	0.43 J	0.57	0.32 J	0.43 J
chloromethane	74-87-3	0.89	--	0.7	0.85
dichlorodifluoromethane	75-71-8	1.9	--	1.6	2.1
m+p-xylenes	--	0.7 J	--	0.87 J	1.4 J
o-xylene	95-47-6	0.11 J	--	0.14 J	0.22 J
tetrachloroethene (PCE)	127-18-4	**0.23 J**	0.11	0.12 J	0.68 J
toluene	108-88-3	0.6 J	2.81	0.72	1.6
total xylenes	1330-20-7	**1.4 J**	1.16	1.8 J	2.5 J
trichlorofluoromethane	75-69-4	1.1 J	--	1.8	4.4

Notes:
1 MEDEP (Maine Department of Environmental Protection) Vapor Intrusion Evaluation Guidance January 13, 2010
J estimated result
$\mu g/m^3$ microgram per cubic meter
-- no criterion or value
U not detected (with associated detection limit)

Based on the data presented in the above table, the concentrations of VOCs detected in the Building 250 outdoor ambient air sample are less than the average concentrations of those VOCs in Maine outdoor ambient air, except for PCE, which is twice the level of the Maine average. These data also show that VOC concentrations detected in outdoor ambient air are within the range of indoor air concentrations for the majority of those compounds. Although the relationship between indoor air and outdoor air is complex, similar concentrations in outdoor ambient air and indoor air indicate that the source of some

VOCs in indoor air is partially the introduction of outdoor ambient air, drawn into the building by the Building 250 HVAC system operation.

A total of 19 VOCs were detected in the utility tunnel air sample (AIR14). Six of these compounds were not detected in the outdoor ambient air sample, although all were detected in indoor air samples. The common laboratory contaminants, acetone and 2-butanone, were among the compounds detected in the utility tunnel air sample, and the detection of these compounds may not be site-related. Although, these compounds were used in the building when it was operational. The table below compares the concentrations of VOCs detected in the utility tunnel air sample with the range of concentrations detected in indoor air samples.

Utility Tunnel Air Sample - Volatile Organic Compound Comparison

Volatile Organic Compounds Detected in Utility Tunnel Air Sample (AIR14)	CAS Number	Utility Tunnel Air Sample (AB102312) (µg/m^3)	Indoor Air Samples Minimum (µg/m^3)	Indoor Air Samples Maximum (µg/m^3)
1,1,2-trichlorotrifluoroethane	76-13-1	0.45 J	0.44 J	0.55 J
1,4-dichlorobenzene	106-46-7	0.066 J	0.06 J	0.12 J
2-butanone	78-93-3	0.59	0.47	1.7
2-hexanone	591-78-6	0.31 J	0.13 J	0.25 J
4-methyl-2-pentanone	108-10-1	1	0.27 J	0.66
acetone	67-64-1	4	3.8	5.7
benzene	71-43-2	0.29 J	0.22 J	0.3 J
carbon disulfide	75-15-0	0.075 J	0.084 J	0.47
carbon tetrachloride	56-23-5	0.42 J	0.32 J	0.43 J
chloroform	67-66-3	0.13 J	0.054 J	0.068 J
chloromethane	74-87-3	0.45	0.7	0.85
dichlorodifluoromethane	75-71-8	1.9	1.6	2.1
ethylbenzene	100-41-4	0.16 J	0.11 J	0.2 J
m+p-xylenes		1.6 J	0.87 J	1.4 J
o-xylene	95-47-6	0.22 J	0.14 J	0.22 J
styrene	100-42-5	0.14 J	0.068 J	0.13 J
tetrachloroethene (PCE)	127-18-4	1.2	0.12 J	0.68 J
toluene	108-88-3	1.6	0.72	1.6
total xylenes	1330-20-7	3.1 J	1.8 J	2.5 J
trichloroethene (TCE)	79-01-6	0.18 J	0.11 J	0.17 J
trichlorofluoromethane	75-69-4	1.7	1.8	4.4

Notes:
J estimated result
µg/m^3 microgram per cubic meter
-- no criterion or value
U not detected (with associated detection limit)

The results from the utility tunnel air sample (B250-AIR14) were compared to the results from the indoor air samples to evaluate transfer factors (if the utility tunnel air concentrations are higher than the indoor air concentrations) and/or potential interferences (if the indoor air concentrations are greater than the utility tunnel concentrations). For the majority of detected VOCs (10 of 19), the utility tunnel air sample concentrations are within the range of the corresponding indoor air VOC concentrations. For the remaining VOCs, concentrations from the utility tunnel air sample are either slightly below or slightly above the range of the indoor air sample concentrations. The presence of the VOCs at similar concentrations in both the tunnel air sample and the indoor air samples indicates that transfer factors and interferences are not significant.

Round 2

A total of 28 VOCs were detected in the indoor air samples, but only TCE slightly exceeded a minimum IAT/RSL value (3 μg/m^3), at two locations, AIR7 and AIR12. Ten VOC compounds were detected in all 13 samples. The detections include acetone and 2-butanone, which were used in the building when it was operational. However, both acetone and 2-butanone are common laboratory contaminants. The detections of these two compounds in the indoor air samples may not be site-related. TCE was detected in 11 of the 13 indoor air samples. TCE concentrations ranged from 0.12 to 12 μg/m^3. Samples AIR7 and AIR12 are both located on the east side of Building 250. Sample AIR7 is located in the southeast corner of the building in the Room 160 of the AF/O/PP Area. Sample AIR12 is located near the east-center of the building, in a hallway in the Avionics Area. Both sample locations had TCE concentrations in soil gas that were well below the SGT of 150 μg/m^3. Location AIR12 did have the highest concentration of TCE in soil gas, 22 μg/m^3.

TCE Concentrations in Co-Located Sub-Slab Soil Gas and Indoor Air Samples – Round 2

Sample Identifier	Area	Location	C_{IA} (TCE Indoor Air Concentration [μg/m^3]) (2)	C_{SG} (TCE Sub-Slab Soil Gas Concentration [μg/m^3]) (1)	Sub-Slab Soil Gas Attenuation Factor (AF)(C_{IA}/C_{SG})
AIR1/SBS1	Hangar 4/ Original AIMD	H4 northwestern section	1.2	0.091	13.2
AIR2/SBS2	Hangar 4/ Original AIMD	H4 southwestern section	0.31	0.59	0.5
AIR3/SBS3	Hangar 4/ Original AIMD	H4 - adjacent to eastern wall, central portion	0.12	2.9	0.04
AIR4/SBS4	Hangar 4/ Original AIMD	northeastern area - Room 173	0.17	0.13	1.3
AIR5/SBS5	Hangar 4/ Original AIMD	southeastern section (storage room)	0.75	4.6	0.16
AIR6/SBS6 (3)	AF/O/PP	southern central area – Room 155	0.14	0.091	1.5
AIR7/SBS7 (4)	AF/O/PP	southeastern section – Room 160	**12**	2.7U	--
AIR8/SBS8	AF/O/PP	northeastern section - Room 151	0.13	5.4	0.02
AIR9/SBS9	AF/O/PP	northwestern corner - Room 138	1.1	2.1	0.5
AIR10/SBS10	AF/O/PP	eastern section - Room 157	0.34U	0.64	--
AIR11/SBS11	AF/O/PP	southwestern section - Room 161	0.51	1.6	0.3

TCE Concentrations in Co-Located Sub-Slab Soil Gas and Indoor Air Samples – Round 2 (continued)

Sample Identifier	Area	Location	C_{IA} (TCE Indoor Air Concentration [µg/m^3]) (2)	C_{SG} (TCE Sub-Slab Soil Gas Concentration [µg/m^3]) (1)	Sub-Slab Soil Gas Attenuation Factor (AF)(C_{IA}/C_{SG})
AIR12/SBS12	Avionics	southwestern section – southern hallway	**8**	22	0.4
AIR13/SBS13	Avionics	northwestern area – Room 109	0.34U	0.35	--
				Minimum	0.02
				Maximum	13.2
				Mean	3.6

(1) Minimum Indoor Air Industrial RSL/ Commercial IAT: 3 µg/m^3
(2) TCE Soil Gas Target (SGT): 150 µg/m^3
(3) TCE sub-slab soil gas concentration is average of duplicate results
(4) Location of maximum indoor air TCE concentration

The sub-slab soil gas AF for TCE (TCE indoor air concentration / TCE sub-slab soil gas concentration) was calculated for each of the ten co-located sample locations where TCE was detected above laboratory reporting limits in both indoor air and soil gas. The location-specific TCE sub-slab soil gas AF values range from 0.02 (AIR8/SBS8) to 13.2 (AIR1/SBS1), with the mean AF for the ten locations at 3.6. The indoor air concentration of TCE is greater than the sub-slab soil vapor concentration at three locations, including AIR1/SBS1, AIR4/SBS4 and AIR6/SBS6. This indicates that the TCE concentration in indoor air at those locations cannot be attributed entirely to the TCE present in soil vapor.

As discussed above, PCE was detected above soil gas targets at one location, SBS5. In indoor air, PCE concentrations did not exceed the IAT of 47 µg/m^3 at any location. PCE concentrations in indoor air ranged from 0.11 to 1.1 µg/m^3, well below the IAT. The highest concentration of PCE in indoor air occurred at AIR9. The indoor air concentration of PCE at AIR5 was 0.15 µg/m^3.

For the outdoor ambient air sample, AB052113, a total of 14 VOCs were detected, each of which was also detected in the indoor air samples. No compounds detected in ambient air exceeded the Maine RAGs or EPA RSLs, but four compounds exceeded the Maine Statewide Outdoor Ambient Air Average. These compounds are 1,4-dichlorobenzene, chloromethane, PCE and TCE, as shown on the table below. The common laboratory contaminants, acetone and 2-butanone, were among the compounds detected in the outdoor ambient air sample, and the detection of these compounds may not be site-related. The table below compares the concentrations of VOCs detected in the upgradient, outdoor ambient air sample with the range of concentrations detected in indoor air samples and with the Maine statewide outdoor ambient air averages.

Outdoor Ambient Air Sample Volatile Organic Compound Comparison – Round 2

VOCs Detected in Outdoor Ambient Air Sample (AB102312)	CAS Number	Outdoor Ambient Air Sample (AB052113) (μg/m³)	Statewide Outdoor Ambient Air Average (μg/m³)[1]	Indoor Air Samples Minimum (μg/m³)	Indoor Air Samples Maximum (μg/m³)
1,1,2-trichlorotrifluoroethane	76-13-1	0.55 J	--	0.52	1.1
1,4-dichlorobenzene	106-46-7	**0.09 J**	0.03	0.11	0.38
2-butanone	78-93-3	1.1	2.26	1.6	4.1
acetone	67-64-1	4	--	5.7	11
benzene	71-43-2	0.15 J	0.83	0.18	0.38
carbon disulfide	75-15-0	0.11 J	0.18	0.04	0.19
carbon tetrachloride	56-23-5	0.45 J	0.57	0.475	1
Chloroform	67-66-3	0.083 J	0.09	0.093	0.21
chloromethane	74-87-3	**0.97**	0.67	0.95	1.8
dichlorodifluoromethane	75-71-8	2.3	2.85	2.4	4.6
tetrachloroethene (PCE)	127-18-4	**8.8**	0.11	0.11	1.1
toluene	108-88-3	0.35 J	2.81	0.53	32
trichloroethene (TCE)	79-01-6	**0.91**	0.03	0.12	12
trichlorofluoromethane	75-69-4	1.1	--	4.1	13

Notes:
1 MEDEP (Maine Department of Environmental Protection) Vapor Intrusion Evaluation Guidance January 13, 2010
J estimated result
μg/m³ microgram per cubic meter
-- no criterion or value
U not detected (with associated detection limit)
Bold font indicates outdoor ambient air sample concentration exceeds Statewide Outdoor Ambient Air Average concentration.

The relationship between indoor air and outdoor air is complex. The table above shows that, with the exception of PCE, the outdoor ambient air concentration is generally less than the minimum value detected in indoor air, or is within the range of indoor air concentrations. The outdoor ambient air concentration of PCE (8.8 μg/m³) was much higher than the statewide outdoor ambient air average (0.11 μg/m³) and the range of concentrations in indoor air (0.11 to 1.1 μg/m³). It is also noted that, TCE was detected at 30 times its Statewide Outside Ambient Average in the Round 2 outdoor ambient air sample. It should be noted that the Maine statewide outdoor ambient air averages (MEDEP, 2010) do not necessarily reflect local ambient air quality. The source of the PCE and TCE in the outdoor ambient air sample is unknown; however, the outside air sample location is in an industrial area where multiple potential sources of outdoor air contamination are present. During sampling, the HVAC system in Building 250 was operating but the Hangar 4 hot-water heating/ventilation was not operating, possibly resulting in less movement between indoor and outdoor air than experienced during Round 1.

As discussed previously, all chemicals were removed from Building 250 and Hangar 4 during the base closure and the building was inspected for residual waste as part of the base hazardous waste closure process.

Vapor Intrusion Risk Analysis

A risk analysis of the sub-slab soil gas data and the indoor air was conducted. Contaminants of Potential Concern (COPCs) were selected by screening against the EPA residential Regional Screening Levels (RSLs) for air and risks associated with industrial exposure were calculated by comparing sample concentrations to industrial RSLs for air.

Groundwater analytical results indicated the presence of two VOCs, TCE and c-1,2-DCE, at levels slightly greater than MCLs and/or Maine Residential RAGs: TCE in four of the 15 wells, and c-1,2-DCE in one well. PCE was also detected in groundwater, but not at concentrations exceeding criteria. Overall, it appears that TCE, its related degradation products, and PCE would be potential vapor intrusion COPCs at the site.

Selection of Contaminants of Potential Concern

To determine indoor air COPCs based on sub-slab soil gas data, the sub-slab soil gas concentrations were compared to RSLs for residential air (EPA, May 2013). The residential RSLs were used to ensure that no contaminant at a significant concentration was excluded from the risk evaluation. The selected screening level is the lesser of the carcinogenic RSL and 0.1 times the noncarcinogenic RSL. The carcinogenic RSL corresponds to a cancer risk level of 1×10^{-6}; the noncarcinogenic RSL corresponds to a Hazard Quotient (HQ) of 1.0. The factor of 0.1 is applied to the noncarcinogenic RSL to account for the additivity of adverse effects.

For this comparison, a conservative attenuation factor (AF) of 0.1 was applied to the residential RSLs; this assumes a 10-fold reduction in the sub-slab soil gas concentration upon infiltration into the indoor air (EPA 2002). Therefore, the selected screening level for a contaminant (corresponding to a cancer risk level of 1×10^{-6} or a HQ of 0.1) is multiplied by 10 to account for this attenuation. For example, the residential RSLs for TCE are 0.43 and 2.1 $\mu g/m^3$ for carcinogenic and noncarcinogenic effects, respectively. The noncarcinogenic screening level for selection of COPCs is 0.21 $\mu g/m^3$ (0.1 x RSL); the carcinogenic screening level is its face value of 0.43 $\mu g/m^3$. The lesser of these two screening levels is the adjusted noncarcinogenic value of 0.21 $\mu g/m^3$. This selected screening level is multiplied by a factor of 10 to account for the conservative AF of 0.1, resulting in a sub-slab screening level of 2.1 $\mu g/m^3$. The maximum detected sub-slab soil gas concentration is 31 $\mu g/m^3$. Because this value exceeds 2.1 $\mu g/m^3$, TCE is selected as a COPC for sub-slab soil gas and its potential to impact indoor air through vapor intrusion.

The COPCs for sub-slab soil gas are: benzene, bromodichloromethane, chloroform, dichlorodifluoromethane, PCE, and TCE. The selection of COPCs for sub-slab soil gas is presented in

Table 9. Maximum concentrations of benzene, bromodichloromethane, chloroform, dichlorodifluoromethane, and PCE qualify them as COPCs for soil gas, but none of these was detected at concentrations in the groundwater greater than MEGs or MCLs. TCE was identified as a COPC in groundwater. PCE could be considered a COPC in groundwater because TCE is one of its biodegradation products.

The same COPC selection process was applied to the indoor air data. In this case, application of an attenuation factor was obviously not required. The COPCs for indoor air are: 1,4-dichlorobenzene, carbon tetrachloride, chloroform, and TCE. Of the indoor air COPCs, only TCE was identified as a COPC in soil gas and groundwater. The selection of COPCs for indoor air is presented in Table 10.

Risk Characterization

To calculate risks for these COPCs, a risk-ratio approach was applied using the maximum detected concentrations of the contaminants and the EPA industrial air RSLs.

The sampled indoor air concentrations for the indoor air COPCs were compared to the industrial RSLs to calculate risks. The risk calculations for indoor air COPCs are presented in Table 11.

Various risk totals were calculated to account for the various COPCs and provide various lines of evidence to determine how to evaluate the potential for vapor intrusion. First, a total risk was determined for the sub-slab soil gas COPCs and the indoor air COPCs by simply summing the risks associated with all the identified COPCs. Another total risk was calculated for only those COPCs that were detected in groundwater; these included risks associated with PCE and TCE. For the soil gas COPCs, a total risk was calculated for those COPCs that were also identified as indoor air COPCs; these include chloroform and TCE. Finally, the risk that corresponds solely to TCE is highlighted because this is the only contaminant that was present in groundwater at concentrations greater than its MCL and Maine's residential RAG and was a COPC in soil gas and indoor air.

The sampled indoor air concentrations resulted in cancer risks less than Maine's target risk level of 1 x 10^{-5} and within EPA's target risk range. The hazard index (1.4) is marginally greater than the target level because of the exceedance of an industrial RSL by TCE in one sample at a concentration of 12 $\mu g/m^3$. TCE was not detected at this sampling location in the previous round of indoor air sampling. Moreover, TCE was not detected in this indoor air sample's corresponding sub-slab soil gas sample. In addition, the maximum detected sub-slab soil gas concentration results in a predicted indoor air concentration less than the industrial RSL. This absence of criteria exceedances in indoor air with the exception of this single exceedance of a criterion value, and its approximation to a hazard index of one, indicates that vapor intrusion is not a significant pathway and does not pose an unacceptable risk.

Summary

There were no exceedances of the minimum IATs/RSLs in Round 1. In Round 2, indoor air concentrations at two locations exceeded the minimum IATs/RSLs for TCE. The exceedances represent an increase in TCE concentrations in these two areas. In Round 1, the Hangar 4 heating/ventilation system and the Building 250 HVAC system were operational and in Round 2 only the Building 250 HVAC system was in operation to simulate normal building conditions. Overall, concentrations of VOCs remained relatively stable at the sampling locations.

PCE was detected in the outdoor ambient air sample. While the source of this PCE is unknown, the sample location is in an industrial area where multiple potential sources of outdoor air contamination are present. In contrast, PCE concentrations did not exceed IATs. In addition, PCE was detected in groundwater, but at concentrations less than its MCL, Maine MEG, and its EPA tap water RSL. It was identified as a sub-slab soil gas COPC, but not at significant concentrations to characterize it as a COPC in indoor air. The absence of PCE at significant levels in indoor air relative to detection in groundwater and soil gas renders vapor intrusion to be an insignificant pathway.

Chloroform, carbon tetrachloride, and 1,4-dichlorobenzene were also identified as indoor air COPCs. However, only chloroform was identified as a soil gas COPC. Chloroform was detected in groundwater, but not at concentrations greater than its MCL, Maine MEG or EPA tap water RSL. Chloroform, while present at a concentration that identifies it as a COPC, could be present as a byproduct of standard treatment of public water supplies. Carbon tetrachloride and 1,4-dichlorobenzene were not detected in groundwater. Therefore, the presence of carbon tetrachloride and 1,4-dichlorobenzene cannot be attributed to vapor intrusion.

Benzene, bromodichloromethane, and dichlorodifluoromethane were identified as soil gas COPCs, but none was identified as an indoor air COPC or a groundwater COPC. Their presence is soil gas cannot be attributed to vapor migration from groundwater.

Building 250 and Hangar 4 have been inactive since April 2010 so the direct indoor air sampling results do not reflect any active chemical use within Building 250 or Hangar 4. In addition, similar concentrations of VOCs in the Round 1 utility tunnel air sample and indoor air samples, both at levels less than minimum IATs/RSL values, indicate that transfer and interference between the tunnel air and indoor air are minimal. The low concentrations in indoor air indicate that the attenuation of vapors from the subsurface is significant.

4.2.4 Room 155 Floor Drain - Vapor Sampling Results

As requested by MEDEP, one vapor sample (AIR15) for VOC analysis (plus duplicate) was collected from floor drain FD02 in Room 155 of the AF/O/PP Area, based on the maximum PID reading of 19.6 ppm detected at that floor drain location during the September 2012 drain screening event. A lower PID reading of 6.6 ppm was recorded at this drain in October 2012, just prior to the floor drain vapor sample collection. Complete analytical results are included in Appendix C-5. The analytical results were compared to the results for the Room 155 co-located indoor air (AIR6) and sub-slab soil gas (SBS6) samples, collected approximately 20 feet northwest of floor drain FD02, where a duplicate sub-slab soil gas sample was collected. Analytical results and the comparison analytical results are summarized in Table 12.

A total of 23 VOCs were detected in the floor drain vapor sample. This includes acetone and 2-butanone, which were used in the building when it was operational. Both are common laboratory contaminants, and the detections of these two compounds in the indoor air samples may not be site-related, as noted previously. The VOC detected at the highest concentration, and the only compound to exceed the minimum IAT/RSL values is PCE, at 36 $\mu g/m^3$, although PCE was not detected in the duplicate sample. Levels of the other VOCs detected in the floor drain vapor sample were less than the minimum IAT/RSL values. Somewhat fewer VOCs were detected in the nearby soil gas sample (21 VOCs) and co-located indoor air sample (18 VOCs). As discussed earlier, no exceedances of the minimum IAT/RSL values were reported for the indoor air samples, including AIR6.

In the table below, the concentrations of benzene, toluene, ethylbenzene, xylene (BTEX), PCE, and TCE in floor drain vapor sample AIR15 and its duplicate are compared to nearby indoor air sample AIR6, and to the range of concentrations detected in all indoor air samples, to evaluate if floor drain vapors may be impacting indoor air quality.

Comparison of Selected VOCs in Floor Drain Vapor and Indoor Air (in $\mu g/m^3$)

Selected VOCs Detected in Floor Drain Vapor Sample AIR15	Floor Drain Vapor Sample AIR15	Floor Drain Vapor Sample AIR15 Duplicate	Indoor Air Sample AIR6	All Indoor Air Samples Minimum	All Indoor Air Samples Maximum
benzene	0.35 J	0.3 J	0.23 J	0.22 J	0.3 J
ethylbenzene	1.2	1.1	0.14 J	0.11 J	0.2 J
toluene	1.8	1.6	1	0.72	1.6
total xylenes	27	27	2.1 J	1.8 J	2.5 J
PCE	36 J	0.42 UJ	0.12 J	0.11 J	0.17 J
TCE	0.091 J	0.34 U	0.34 U	1.8	4.4

Notes:
All results in $\mu g/m^3$ (microgram per cubic meter)
J estimated result
-- no criterion or value
U not detected (with associated detection limit)
UJ not detected, and associated detection limit is estimated

As shown, concentrations of BTEX compounds in floor drain vapor sample AIR15 are higher than corresponding concentrations in the nearby indoor air sample AIR6, yet the BTEX levels in AIR6 are within the range of BTEX concentrations for all the indoor air samples, and most are closer to the minimum value than the maximum. In addition, even though PCE was detected in the AIR15 floor drain vapor sample at an elevated level (36 μg/m^3), the PCE concentration in nearby indoor air sample AIR6 (0.12 μg/m^3) was within the range and near the minimum value detected for all indoor air samples. Only a trace level (0.091 μg/m^3) of TCE was reported in floor drain vapor sample AIR15, and TCE was not detected in the nearby indoor air sample. Based on this evaluation, floor drain vapors are not contributing significant VOC contamination to indoor air.

The source VOCs detected in the Room 155 FD02 floor drain vapor sample (AIR15) is most likely residual material from past operations that remains in the industrial wastewater drainage system. As discussed in Section 3.3, in October 2013 all three floor drains in Room 155 were permanently sealed, along with 16 other floor drains, to prevent possible future unauthorized usage. The drains sealed also include four drains in Room 160 where the TCE indoor air concentration exceeded the minimum IAT/RSL value during Round 2. The permanent sealing of these drains will also prevent the potential future release of any contaminated vapor from these drains to indoor air.

5.0 FINDINGS AND CONCLUSIONS

To satisfy the criteria for evaluating the potential VI pathway at Building 250 and Hangar 4, the groundwater and VI investigation characterized environmental media underlying Building 250 and Hangar 4, as well as indoor air and outdoor ambient air, by direct measurement. The data collected during the investigation are representative of current conditions and provide the basis of a multiple-lines-of-evidence approach for conducting the VI assessment, using groundwater, vadose zone, sub-slab soil gas, indoor air and outdoor ambient air data and sample results. Findings based on field data, observations, and the analytical data for the Building 250 Parcel groundwater and VI investigation are presented below.

- Soil Characterization - No evidence of residual contamination in vadose zone soils was found in soil borings advanced near Building 250 and Hangar 4, in upgradient or downgradient areas within the Building 250 Parcel. The lack of soil contamination at the parcel, as evidenced by visual observations and field screening of collected soil samples, indicates that soil impacts, if any, are minimal, and that no significant residual source is present in soil surrounding Building 250 and Hangar 4. Sub-slab soil gas results indicate that low-level residual soil contamination is present beneath the Building 250 and Hangar 4 slab. Based on groundwater sampling results, any residual soil contamination that may be under the building slab is limited in mass and/or solubility and not greatly impacting downgradient groundwater, as only low concentrations of contaminants were found in shallow groundwater. The groundwater sampling results also indicate that the source(s) of low level contaminant concentrations in Building 250 Parcel groundwater may be upgradient of Building 250 and Hangar 4. The possibility of residual soil contamination under the Building 250 and Hangar 4 slab suggests that appropriate soil testing and management practices during future excavation of soil under the slab is warranted.

- Groundwater Characterization – The near absence of VOC/EPH/VPH criteria exceedances in groundwater samples from June and October 2012 indicates the lack of a significant source of volatile organics at the Building 250 Parcel, and minimal groundwater impacts overall. Four VOCs (chloroform, c-1,2-dichloroethene, PCE, and TCE) were detected in the October 2012 groundwater samples. Two VOCs, TCE (in four wells) and c-1,2-DCE (in one well), were detected at levels exceeding the MCLs and/or RAGs in groundwater samples collected from the fifteen temporary monitoring wells sampled in this investigation. All the wells with criteria exceedances are screened in deeper Transition and Lower Sand units, which lie below the Upper Sand Unit. Monitoring well MW-B250-10, located south of Building 250 and Hangar 4, is the only shallow overburden well that had a detection of a VOC, and only one compound, PCE, was present at a low level (1.8 µg/L), not exceeding comparison criteria.

- Sub-Slab Soil Gas Characterization – In Round 1 of the sub-slab soil gas sampling, two VOCs, PCE (in one sample) and chloroform (in one sample), were detected in sub-slab soil gas at levels that exceed their respective SGTs, and at a total of only two locations, in the Original AIMD Area and Avionics Area. In Round 2, only PCE was present at a concentration above the SGT and at the same location as in Round 1, the Original AIMD Area. Soil gas concentrations greater than the SGT levels indicate a potential for VI or migration of volatile chemicals from the subsurface into the overlying Hangar 4 and Original AIMD Area. While a total of 27 to 30 VOCs were detected in the two rounds of sub-slab soil gas samples from 13 locations, several were detected infrequently, and the majority of the more frequently detected compounds were present only at low levels, well below their respective SGTs. In groundwater, a total of only seven VOCs were detected during the June 2012 and October 2012 rounds; therefore, groundwater does not appear to be the source of most of the VOCs detected in the soil gas underlying Building 250 and Hangar 4. The source of VOCs detected in soil gas samples may be a release(s) that occurred in the building to the underlying soil.

- Floor Drain Vapor Characterization – Floor drain vapor is not a significant contribution of VOC contamination to indoor air while the HVAC systems are in operation. The positive PID readings observed at 12 of 42 floor drains screened in Building 250 and Hangar 4 were primarily low-level readings. One floor drain vapor sample and duplicate were collected from the floor drain location with the maximum PID reading, in Room 155 of the AF/O/PP Area. Indoor air quality was not significantly impacted by the floor drain vapor while the HVAC systems were in operation.

- Indoor Air Characterization – Direct measurement of VOC concentrations in indoor air indicates that attenuation of vapors from the subsurface is significant and that vapor intrusion is not significant while the HVAC systems are either fully active or partially active. TCE and cis-1,2-dichloroethene were detected in groundwater at concentrations greater than MCLs or Maine RAGs; however only TCE was detected in soil gas and the indoor air. PCE was detected in the groundwater and soil gas, but not in the indoor air. While multiple VOCs were detected in the indoor air samples, none of the concentrations exceeded their respective minimum IAT/RSL values in Round 1. In Round 2, TCE exceeded the minimum IAT/RSL value at two locations located in the Room 160 of the AF/O/PP Area and in a hallway in the Avionics Area. TCE was not detected in the Room 160 soil gas sample and was not present above the SGT in the Avionics Area hallway sub-slab soil vapor sample. In addition, the concentration of TCE in the sub-slab soil vapor samples remained stable or decreased between Round 1 and Round 2. As discussed in the Sub-Slab Soil Gas Characterization section above, two chemicals (PCE and chloroform) were detected in sub-slab soil gas at levels exceeding their SGT. However, the indoor air concentrations of both of these VOCs at the corresponding sample locations were very low, well below their minimum IAT/RSL values. Even though the PCE soil gas concentrations at the Original AIMD Area soil gas sample location were much higher than the concentrations of TCE in Round 2 sub-slab soil gas samples from Room 160 and the Avionics Area hallway, a significant concentration of PCE in the corresponding Original AIMD Area indoor air did not result. In addition, PCE was detected at over twice the level of TCE in the Round 2 AF/O/PP Area hallway sub-slab soil gas sample yet it was not detected in the corresponding indoor air sample. These observations indicate that the presence of TCE in the indoor air is not related to VI from the subsurface. There are no known potential interior sources as all chemicals were removed and the building was inspected for residual waste. As mentioned previously, all chemicals, including solvents, have been removed and no significant residual wastes are known to be present in the building. However, it is possible that residual sources of VOC contamination remain in the building, as a result of aircraft maintenance operations over 30 years that could account for the indoor air TCE detections. The fact that building's air circulation was decreased as a result of the inactive Hangar 4 heating/ventilation system with the Building 250 HVAC system active simulating normal seasonal conditions may have influenced indoor air quality.

- Outdoor Ambient Air Characterization - PCE was detected in the Round 2 ambient air sample at a concentration significantly higher than in Round 1 ambient air, while other detected VOCs were similar in concentration between Round 1 and Round 2. The Round 2 concentration of PCE (8.8 μg/m3) was much higher than both the statewide outdoor ambient average (0.11 μg/m3) and the range of concentrations in indoor air (0.11 to 1.1 μg/m3). The source of the PCE in outdoor ambient air is unknown, but it did not affect indoor air concentrations of PCE, which remained relatively stable between Round 1 and Round 2. The outdoor ambient air sample location is in an industrial area where multiple potential sources of outdoor air contamination are present

The above findings were used to support an assessment of a potential VI pathway at the Building 250 Parcel. The three components of a complete VI pathway include: 1) evidence of a source or release of volatile and toxic chemicals; 2) a pathway to a receptor; and 3) a receptor. A completed VI pathway requires a source of volatile and toxic chemicals, an inhabited building, and a pathway connecting the source to the inhabitants. Evidence of a complete VI pathway would require consideration of measures to remove and/or control the source of vapors.

1) Evidence of a source or release of volatile and toxic chemicals: No evidence of significant contamination was found during the soil and groundwater investigation, which included spill records research, screening of parcel soils and analysis of parcel groundwater. Two VOCs (TCE and c-1,2 DCE) were detected in the groundwater underlying the Building 250 Parcel at concentrations exceeding their MCLs/RAGs, however, the contaminant mass is not significant. Evidence of residual volatile and toxic chemicals in the subsurface was found during sub-slab soil gas sampling. VOC sub-

slab soil gas concentrations were found above SGTs at one location in the Hangar 4 and Original AIMD Area and at one location in the Avionics Area. The exceedance of the SGT in Hangar 4 was measured in both Round 1 and Round 2. This contaminated soil gas evidence indicated the potential for VI, justifying the expanded VI investigation which included direct measurement of indoor air VOC concentrations and further evaluation of the pathway.

2) Pathway to a receptor: There are potential preferential migration pathways for vapors under Building 250, including utility lines underlying the building’s concrete slab and concrete slab construction joints. The majority of the Building 250 Parcel is covered with impervious material (184,000-square-foot building, mostly surrounded by concrete and asphalt pavement). The building has no basement, although a utility tunnel runs the length of the building, in an east-west orientation. Based on floor drain screening and air sampling, indoor air quality is not significantly impacted by floor drain vapor.

3) Receptor: VOC concentrations in Building 250 and Hangar 4 indoor air were directly measured and compared to Maine RAGs for Indoor Air (Commercial Receptors) and EPA Industrial Air RSLs. During Round 1, none of the indoor air concentrations exceeded their respective IAT/RSL values. During Round 2, two sampling locations slightly exceeded the IAT/RSL values for TCE. At these locations, the SGT for TCE was not exceeded and the soil gas concentration of TCE was similar to, or lower than its concentration in Round 1. Conversely, while PCE was found at elevated levels in sub-slab soil gas samples, it is not detected in indoor air at levels exceeding its minimum IAT/RSL value. These findings indicate that the presence of TCE in indoor air is not a result of vapor intrusion. While there are no solvents present in the building or no known significant historical interior residual waste, it is possible that residual sources of VOCs as a result of past operations remain, which could account for the TCE detections. The Hangar 4 heating and ventilation system was not active during Round 2, but was active during Round 1, which likely affected the concentrations of VOCs in the building’s indoor air. Although TCE was detected above minimum commercial IAT/RSL values in indoor air at two locations, these concentrations do not seem to be a result of VI, and therefore, the VI pathway is incomplete.

The Building 250 Parcel groundwater investigation showed no significant soil or groundwater contamination is present at the parcel. Based on visual observations and field screening, no evidence of soil contamination was found in fourteen borings advanced within the parcel. Groundwater concentrations of two VOCs slightly exceeded the respective MCL/RAG criteria, TCE at four monitoring well locations and c-1,2-DCE at one well. In sub-slab soil gas samples collected inside Building 250 and Hangar 4, multiple VOCs were detected at trace levels but only two VOCs, PCE and chloroform, were detected at concentrations exceeding SGTs, each at only one location, indicating that low-level residual subsurface contamination is present. In the Round 1 indoor air sampling results for Building 250 and Hangar 4, VOC concentrations were less than IATs and RSLs. In Round 2, the indoor air concentration of TCE exceeded the IAT at one of the 13 locations, and the RSL at two locations. However, the low concentrations of TCE in sub-slab soil vapor, which did not exceed criteria, indicate that the presence of TCE in indoor air is not likely due to soil vapor intrusion. It is noted that in the Round 2 outdoor ambient air sample, TCE was detected at 30 times the Statewide Outside Ambient Average for TCE.

A screening risk analysis was conducted for an industrial receptor using measured indoor air concentrations. The industrial risks using measured indoor air concentrations (maximum detected values) indicated that the cancer risk was less than MEDEP's target risk level of 10-5 and within EPA's target risk range of 10^{-4} to 10^{-6}. The hazard index is approximately equal to the target level of one (1.0) because of the exceedance of the TCE RSL in one sample.

Based on multiple lines of evidence supported by the results of the Building 250 Parcel groundwater and VI investigation, no complete VI pathway exists, either with or without the Hangar 4 heating and ventilation system operating, whichever scenario is most representative of seasonal conditions. Therefore, no VI remedial action or mitigation measures are necessary.

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TABLE 1
MONITORING WELL CONSTRUCTION AND WATER LEVEL SUMMARY
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

Well Identification	Year Installed	Geologic Unit Screened	Well Inside Diameter (inches)	PVC Riser Elevation[1] (ft-NAVD88)	Ground Elevation[1] (ft-NAVD88)	Depth to Top of Well Screen (ft bgs)	Depth to Bottom of Well Screen (ft bgs)	Elevation of Top of Well Screen[1] (ft-NAVD88)	Elevation of Bottom of Well Screen[1] (ft-NAVD88)	Depth to Groundwater – 6/5/12 (ft from TPVC)	Groundwater Elevation[(1)] – 6/5/12 (ft-NAVD88)	Depth to Groundwater – 10/1/12 (ft from TPVC)	Groundwater Elevation[(1)] – 10/1/12 (ft-NAVD88)
MW-B250-01	2012	Transition/Lower Sand	1	59.93	60.22	29.0	39.0	31.22	21.22	7.09	52.84	8.09	51.84
MW-B250-02	2012	Lower Sand	1	60.81	61.22	37.0	47.0	24.22	14.22	8.46	52.35	9.53	51.28
MW-B250-03	2012	Transition/Lower Sand	1	58.51	59.10	43.0	53.0	16.10	6.10	6.59	51.92	7.78	50.73
MW-B250-04	2012	Transition	1	60.54	60.99	16.0	21.0	44.99	39.99	4.48	56.06	5.50	55.04
MW-B250-05	2012	Transition/Lower Sand	1	60.93	61.45	23.0	28.0	38.45	33.45	5.41	55.52	6.49	54.44
MW-B250-06	2012	Lower Sand	1	57.71	58.01	43.0	53.0	15.01	5.01	6.04	51.67	7.30	50.41
MW-B250-07	2012	Transition/Lower Sand	1	56.86	57.18	29.0	39.0	28.18	18.18	5.30	51.56	6.55	50.31
MW-B250-08	2012	Transition	1	57.92	58.41	32.5	42.5	25.91	15.91	5.55	52.37	6.60	51.32
MW-B250-09	2012	Upper Sand	1	60.65	60.82	5.0	15.0	55.82	45.82	--[(2)]	--[(2)]	8.85	51.80
MW-B250-10	2012	Upper Sand	1	60.46	60.70	7.0	17.0	53.70	43.70	--	--	9.65	50.81
MW-B250-11	2012	Transition	1	61.37	61.52	11.0	21.0	50.52	40.52	--	--	10.82	50.55
MW-B250-12	2012	Upper Sand	1	61.11	61.33	5.0	15.0	56.33	46.33	--	--	6.80	54.31
MW-B250-13	2012	Transition	1	60.91	61.30	25.0	35.0	36.30	26.30	--	--	5.79	55.12
MW-B250-14	2012	Upper Sand	1	60.91	61.18	4.0	14.0	57.18	47.18	--	--	6.06	54.85
MW-B250-15	2012	Upper Sand	1	61.55	61.60	5.0	15.0	56.60	46.60	--	--	8.37	53.18
MW-H123-01S	2011	Upper Sand	1	65.80	66.19	7.0	17.0	59.19	49.19	--	--	7.97	57.83
MW-H123-01D	2011	Transition	1	65.92	66.19	25.5	35.5	40.69	30.69	--	--	7.85	58.07
MW-H123-02	2011	Transition	1	66.53	66.86	25.0	35.0	41.86	31.86	--	--	7.75	58.78
NASB-B225-MW08	2010	Transition	1	65.06	65.44	28.0	38.0	37.44	27.44	--	--	6.54	58.52
NASB-B225-MW09	2010	Upper Sand	1	62.94	63.23	5.0	15.0	58.23	48.23	--	--	4.30	58.64
MW-NASB-226	1998	Upper Sand	2	62.22	62.57	8.0	13.0	54.57	49.57	--	--	4.32	57.90
MW-09-001	2007	Lower Sand	2	55.08	52.61	30.0	40.0	22.61	12.61	7.85	47.23	9.81	45.27
MW-09-022	1995	Upper Sand/Transition	2	56.99	57.97	5.0	15.0	52.97	42.97	6.39	50.60	8.55	48.44
MW-09-204	1995	Upper Sand	2	61.32	58.56	5.0	15.0	53.56	43.56	6.33	54.99	9.42	51.90
MW-09-227	1998	Lower Sand	2	57.75	55.05	27.0	37.0	28.05	18.05	8.42	49.33	10.07	47.68

Notes:
1. Elevations are based on feet mean sea level (NAVD 1988). Measuring point for MW-09-022 is 4-inch steel casing.
2. Well was not gauged or well had not yet been installed on 6/5/12.

bgs below ground surface
ft feet
-- No value – well not measured or not installed at time of measurement.
NAVD88 North American Vertical Datum 1988
PVC polyvinyl chloride
TPVC top of PVC riser

TABLE 2
GROUNDWATER SAMPLE COLLECTION DEPTHS AND GEOLOGIC UNITS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

Sample Identification	Sample Collection Depth (feet bgs)	Well Designation	Geologic Unit	Analysis
MW-B250-01-0612	34	Deep	Transition/Lower Sand	VOCs, VPH, EPH
MW-B250-01-1012				VOCs
MW-B250-02-0612	42	Deep	Lower Sand	VOCs, VPH, EPH
MW-B250-02-1012				VOCs
MW-B250-03-0612	48	Deep	Transition/Lower Sand	VOCs, VPH, EPH, metals
MW-B250-03-1012				VOCs
MW-B250-04-0612	18.5	Shallow	Transition	VOCs, VPH, EPH
MW-B250-04-1012				VOCs
MW-B250-05-0612	25.5	Deep	Transition/Lower Sand	VOCs, VPH, EPH
MW-B250-05-1012				VOCs
MW-B250-06-0612	48	Deep	Lower Sand	VOCs, VPH, EPH
MW-B250-06-1012				VOCs
MW-B250-07-0612	34	Deep	Transition/Lower Sand	VOCs, VPH, EPH
MW-B250-07-1012				VOCs
MW-B250-08-0612	37.5	Deep	Transition	VOCs, VPH, EPH, metals
MW-B250-08-1012				VOCs
MW-B250-09-1012	12	Shallow	Upper Sand	VOCs
MW-B250-10-1012	13	Shallow	Upper Sand	VOCs
MW-B250-11-1012	16	Shallow	Transition	VOCs
MW-B250-12-1012	10	Shallow	Upper Sand	VOCs
MW-B250-13-1012	30	Deep	Transition	VOCs
MW-B250-14-1012	10	Shallow	Upper Sand	VOCs
MW-B250-15-1012	10	Shallow	Upper Sand	VOCs

Notes
Depth for groundwater sample indicates pump intake depth.
Deep wells were screened above a confining silt/clay unit and shallow wells were installed to intersect the groundwater table.

Abbreviations:
bgs below ground surface

TABLE 3
WEATHER CONDITIONS DURING INDOOR AIR SAMPLING EVENTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

Time	Temperature (°F)	Barometric Pressure (inch-Hg)	Humidity (percent)	Wind Speed (mph)	Wind Direction
Event 1: October 23, 2012					
1215	59	30.06	39	7	northwest
1315	59	30.06	37	6	northwest
1415	58	30.00	35	6	northwest
1515	59	30.00	31	6	west northwest
1615	57	30.00	30	6	northwest
1715	56	30.03	33	6	west northwest
1815	57	30.06	44	4	north
1915	53	30.06	54	4	north
2015	47	30.09	50	6	northwest
2115	43	30.09	63	6	northwest
Event 2: May 21, 2013					
0815	51	29.91	86	2	north
0915	51	29.91	86	2	east
1000	50	29.91	93	calm	calm
1100	50	29.91	87	calm	calm
1200	50	29.94	94	calm	calm
1300	50	29.94	93	5	east northeast
1400	50	29.94	89	6	east
1500	50	29.91	89	2	east
1600	52	29.97	88	4	east northeast
1700	51	29.94	90	5	east

Notes:
Weather data obtained from mobile phone application Elecont Weather (eWeather HD) by Elecont LLC.
Time readings for 24-hour clock.
°F degrees Fahrenheit
inch Hg inches mercury
mph miles per hour

TABLE 4
GROUNDWATER SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 1 OF 2

SAMPLE ID[1]				MW-B250-01-0612	MW-B250-01-1012	MW-B250-01-1012 (duplicate)	MW-B250-02-0612	MW-B250-02-1012	MW-B250-03-0612	MW-B250-03-0612-D (duplicate)	MW-B250-03-1012	MW-B250-04-0612	MW-B250-04-1012	MW-B250-05-0612	MW-B250-05-1012	MW-B250-06-0612
WELL LOCATION/ DESIGNATION				southwest/ deep	southwest/ deep	southwest/ deep	southeast/ deep	southeast/ deep	southeast/ deep	southeast/ deep	southeast/ deep	north/ shallow	north/ shallow	northeast/ deep	northeast/ deep	southeast/ deep
SAMPLE DATE	**Federal MCL[2]**	**Maine MEG[3]**	**Minimum Criteria**	06/07/12	10/02/12	10/02/12	06/07/12	10/02/12	06/06/12	06/06/12	10/01/12	06/07/12	10/02/12	06/07/12	10/02/12	06/08/12
VOLATILES (µg/L)																
bromomethane	NC	10	10	1 U	1 U	1 U	**3.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
chloroform	80	70	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.73 J**	**0.88 J**	0.5 U	0.5 U	0.5 U
cis-1,2-dichloroethene	70	10	10	**5.9**	**6.4**	**6.2**	**6.1**	**7.8**	**0.93 J**	**0.83 J**	**2.5**	**8.6**	**9.4**	**12**	**15**	**4**
cyclohexane	NC	NC	NC	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.52 J**	0.5 U	0.5 U
dichlorodifluoromethane	NC	1000	1000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.4 J**	1 U	1 U	1 U	1 U
tetrachloroethene (PCE)	5	40	5	**2 J**	**2.7**	**2.2**	**0.56 J**	1.2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.62 U	0.5 UJ	0.5 U	0.5 UJ
trichloroethene (TCE)	5	4	4	**11**	**10**	**10**	**6.1**	**8.2**	0.5 U	0.5 U	**0.59 J**	**6.8**	**8**	**2.1**	**3.3**	**1.2**
VPH MADEP (µg/L)																
C5-C8 aliphatics		300	300	**64 J**	NA	NA	75 U	NA	75 U	75 U	NA	75 U	NA	75 U	NA	75 U
METALS (µg/L)																
aluminum	NC	7000	7000	NA	NA	NA	NA	NA	**107 J**	**101 J**	NA	NA	NA	NA	NA	NA
barium	2000	1000	1000	NA	NA	NA	NA	NA	**20**	**20.2**	NA	NA	NA	NA	NA	NA
cadmium	5	1	1	NA	NA	NA	NA	NA	**0.25 J**	**0.24 J**	NA	NA	NA	NA	NA	NA
calcium	NC	NC	NC	NA	NA	NA	NA	NA	**16100**	**16000**	NA	NA	NA	NA	NA	NA
cobalt	NC	10	10	NA	NA	NA	NA	NA	**0.81 J**	**0.81 J**	NA	NA	NA	NA	NA	NA
iron	NC	5000	5000	NA	NA	NA	NA	NA	**174**	**159**	NA	NA	NA	NA	NA	NA
magnesium	NC	NC	NC	NA	NA	NA	NA	NA	**6040**	**6030**	NA	NA	NA	NA	NA	NA
manganese	NC	500	500	NA	NA	NA	NA	NA	**5220**	**5180**	NA	NA	NA	NA	NA	NA
mercury	2	2	2	NA	NA	NA	NA	NA	**0.02 J**	**0.02 J**	NA	NA	NA	NA	NA	NA
nickel	NC	20	20	NA	NA	NA	NA	NA	1.8 U	1.7 U	NA	NA	NA	NA	NA	NA
potassium	NC	NC	NC	NA	NA	NA	NA	NA	**3250**	**3250**	NA	NA	NA	NA	NA	NA
sodium	NC	20000	20000	NA	NA	NA	NA	NA	**30600**	**30500**	NA	NA	NA	NA	NA	NA
vanadium	NC	200	200	NA	NA	NA	NA	NA	**0.56 J**	**0.62 J**	NA	NA	NA	NA	NA	NA
zinc	NC	2000	2000	NA	NA	NA	NA	NA	**12.4**	**11.6**	NA	NA	NA	NA	NA	NA

TABLE 4
GROUNDWATER SAMPLE RESULTSTECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 2 OF 2

SAMPLE ID[1]				MW-B250-06-1012	MW-B250-07-0612	MW-B250-07-1012	MW-B250-08-0612	MW-B250-08-1012	MW-B250-09-1012	MW-B250-09-1012-D (duplicate)	MW-B250-10-1012	MW-B250-11-1012	MW-B250-12-1012	MW-B250-13-1012	MW-B250-14-1012	MW-B250-15-1012
WELL LOCATION/ DESIGNATION				southeast/ deep	southeast/ deep	southeast/ deep	south/ deep	south/ deep	southwest/ shallow	southwest/ shallow	south/ shallow	southeast shallow	northwest/ shallow	northwest/ deep	north/ shallow	northeast/ shallow
SAMPLE DATE	**Federal MCLs[2]**	**Maine Residential RAGs[3]**	**Minimum Criteria**	10/01/12	06/08/12	10/01/12	06/06/12	10/01/12	10/03/12	10/03/12	10/03/12	10/03/12	10/03/12	10/02/12	10/03/12	10/02/12
VOLATILE ORGANICS (µg/L)																
bromomethane	NC	10	10	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
chloroform	80	70	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-dichloroethene	70	10	10	**4.2**	**2.7**	**0.26 J**	**0.58 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**10**	0.5 U	0.5 U
cyclohexane	NC	NC	NC	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
dichlorodifluoromethane	NC	1000	1000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tetrachloroethene (PCE)	5	40	5	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.8**	0.5 U	0.5 U	**2.8**	0.5 U	0.5 U
trichloroethene (TCE)	5	4	4	**1.9**	**0.65 J**	0.5 U	0.5 U	**0.43 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**14**	0.5 U	0.5 U
EPH MADEP (µg/L)																
C5-C8 aliphatics	NC	NC	NC	NA	75 U	NA	75 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (µg/L)																
aluminum	NC	7000	7000	NA	40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
barium	2000	1000	1000	NA	**16.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cadmium	5	1	1	NA	**0.07 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
calcium	NC	NC	NC	NA	**18600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cobalt	NC	10	10	NA	**2.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
iron	NC	5000	5000	NA	**130**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
magnesium	NC	NC	NC	NA	**6090**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
manganese	NC	500	500	NA	**1320**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
mercury	2	2	2	NA	**0.03 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
nickel	NC	20	20	NA	**5.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
potassium	NC	NC	NC	NA	**2940**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sodium	NC	20000	20000	NA	**20200**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vanadium	NC	200	200	NA	4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
zinc	NC	2000	2000	NA	**13.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
(1) Sample prefix “NASB” is not shown.
(2) EPA 2012 Drinking Water Standards and Health Advisories, April 2012.
(3) Maine Remedial Action Guidelines (RAGs) for Sites Contaminated with Hazardous Substances, May 10, 2013.
Bold font indicates analyte detected; shaded background indicates result exceeds minimum criterion.

J	estimated result
EPH	Extractable Petroleum Hydrocarbons
MADEP	Massachusetts Department of Environmental Protection
MCL	Maximum Contaminant Level
MEG	Maximum Exposure Guideline
µg/L	microgram per liter
NA	not analyzed
--	no criterion or value
U	not detected (with associated detection limit

TABLE 5
SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]	**CAS Number**	**SGTs[2] based on MEDEP Chronic Commercial Scenario IAT (µg/m3) - 10/4/2011[3]**	**SGTs[2] based on MEDEP Subchronic (7 year) Commercial Scenario IAT (µg/m3) - 10/4/2011[4]**	**SGTs[2] based on MEDEP Commercial IAT (µg/m3) - 5/8/2013[5]**	**SGTs[2] based on EPA Industrial Air RSLs (µg/m3) - May 2013[6]**	**Minimum SGT Criteria[7]**	B250-SBS1		B250-SBS2		B250-SBS3		B250-SBS4		B250-SBS5	
SAMPLE DATE							10/24/2012	5/22/2013	10/24/2012	5/22/2013	10/24/2012	5/22/2013	10/25/2012	5/23/2013	10/24/2012	5/22/2013
BUILDING/AREA							H4/Original AIMD		H4/Original AIMD		H4/Original AIMD		H4/Original AIMD		H4/Original AIMD	
LOCATION							H4 northwest corner		H4 southwest corner		H4 - adjacent to eastern wall, central portion		Northeastern area – east of H4 - Room 173		Southeastern area - east of H4 (storage)	
VOCs (µg/m^3)																
1,1,1-trichloroethane	71-55-6	219000	219000	1100000	1100000	1100000	**0.49** J	0.34 U	**10**	**11**	14 U	**0.87**	**2.1**	**1.4**	**400**	**590**
1,1,2-trichlorotrifluoroethane	76-13-1	NC	NC	NC	6500000	6500000	**21**	**0.61** J	**19**	**15**	19 U	**0.57** J	**0.62** J	**0.7** J	**28**	**28**
1,1-dichloroethene	75-35-4	8760	8760	44000	44000	44000	2 U	0.25 U	2 U	0.25 U	9.9 U	0.25 U	0.25 U	0.25 U	**0.095** J	**0.079** J
1,2,4-trichlorobenzene	120-82-1	87.6	87.6	440	440	440	3.7 U	**0.14** J	3.7 U	0.46 U	18 U	0.46 U	**0.33** J	**0.24** J	**0.12** J	0.46 U
1,2-dichlorobenzene	95-50-1	NC	NC	44000	44000	44000	3 U	0.38 U	3 U	0.38 U	15 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,4-dichlorobenzene	106-46-7	55.75	199.09	13000	55	55	3 U	**0.084** J	3 U	**0.096** J	15 U	0.38 U	**0.18** J	**0.13** J	**0.096** J	**0.11** J
1,4-dioxane	123-91-1	131400	131400	650000	80	80	**1.3** J	0.22 U	**1.3** J	0.22 U	9 U	**0.16** J	0.22 U	0.22 U	0.22 U	0.22 U
2-butanone (methyl ethyl ketone)	78-93-3	219000	219000	1100000	1100000	1100000	**7.7**	**5**	**5.3**	**12**	**9.4** J	**5**	**15**	**10**	**9.1**	**8**
2-hexanone (methyl butyl ketone)	591-78-6	NC	NC	NC	6500	6500	**0.9** J	**0.61**	**0.57** J	**3.5**	10 U	**1.7** J	**3.9**	**2.4**	**2.4**	**2** J
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	131400	131400	650000	650000	650000	**4.9**	**0.7**	**3.2** J	**6.1**	**17** J	**5.3**	**3.5**	**1.3**	**3.1**	**1.5**
acetone	67-64-1	NC	NC	7000000	7000000	7000000	**950** J	**73**	**1000** J	**240**	**300**	**79**	**130**	**67**	**170**	**73**
benzene	71-43-2	78.62	280.77	800	80	80	**0.61** J	**0.19** J	**0.45** J	**0.28** J	8 U	**0.31** J	**0.77**	**0.73**	**1.5**	**0.38** J
bromodichloromethane	75-27-4	NC	NC	NC	16.5	16.5	3.3 U	0.42 U	3.3 U	0.42 U	17 U	**0.36** J	**0.08** J	**0.36** J	0.42 U	0.42 U
bromomethane	74-83-9	219	8760	1100	1100	1100	1.9 U	0.24 U	1.9 U	0.24 U	9.7 U	0.24 U	0.24 U	0.24 U	**0.34** J	0.24 U
carbon disulfide	75-15-0	30660	91980	155000	155000	155000	**15**	**1**	**3.1** J	**2.4**	**5** J	**2**	**3.7**	**3.1**	**9.3**	**2.4**
carbon tetrachloride	56-23-5	102.2	365	1000	100	100	3.1 U	**0.38** J	3.1 U	**0.26** J	16 U	**0.36** J	**0.46** J	**0.55** J	**0.18** J	**0.19** J
chlorobenzene	108-90-7	43800	43800	220000	11000	11000	2.3 U	0.29 U	2.3 U	0.29 U	12 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
chloroform	67-66-3	26.66	95.22	265	26.5	26.5	**1.8** J	**0.38** J	**0.58** J	**0.58** J	12 U	**2.5**	**2.3**	**3**	**3.9**	**4.2**
chloromethane	74-87-3	3942	39420	19500	19500	19500	1 U	0.13 U	**2.9**	0.13 U	5.2 U	0.13 UJ	0.13 U	**0.66**	0.13 U	0.13 UJ
cyclohexane	110-82-7	NC	NC	NC	1300000	1300000	1.7 U	0.22 U	1.7 U	0.22 U	8.6 U	0.22 U	0.22 U	0.22 U	**0.38** J	0.22 U
dichlorodifluoromethane	75-71-8	8760	87600	44000	22000	22000	**2.1** J	**2.1**	**3.2** J	**3.6**	**2.2** J	**2.4**	**1.9**	**2.6**	**3300**	**5300**
ethylbenzene	100-41-4	245.28	876	2450	245	245	**0.69** J	**0.42** J	**1.5** J	**0.32** J	11 U	**0.078** J	**0.87**	**0.42** J	**0.37** J	**0.16** J
m+p-xylenes	179601-23-1	NC	NC	NC	NC	NC	**4.9** J	**3.1**	**12** J	**2.1** J	43 U	**0.42** J	**8.2**	**3.6**	**2.4**	**0.76** J
methyl tert-butyl ether	1634-04-4	2358.46	8423.08	23500	2350	2350	1.8 U	0.22 U	1.8 U	0.22 U	9 U	0.22 U	0.22 U	0.22 U	0.22 U	**0.13** J
methylene chloride	75-09-2	1304.68	4659.57	130000	60000	60000	0.62 U	0.83 U	0.9 U	0.52 U	**5.2** J	0.62 U	0.49 U	0.42 U	0.23 U	0.59 U
o-xylene	95-47-6	NC	NC	NC	22000	22000	**1.2** J	**0.61**	**3.4** J	**0.65**	11 U	**0.13** J	**1.3**	**0.74**	**0.65**	**0.19** J
styrene	100-42-5	13140	39420	65000	220000	65000	2.1 U	**0.25** J	2.1 U	**0.17** J	11 U	**0.089** J	**0.22** J	**0.29** J	**0.39** J	**0.28** J
tetrachloroethene (PCE)	127-18-4	103.93	371.19	9000	2350	2350	**130**	**1.6**	**740**	**680**	**56**	**59**	**54**	**85**	**6600**	**5900**
toluene	108-88-3	219000	219000	1100000	1100000	1100000	**2.5** J	**2**	**10**	**1.9**	9.4 U	**0.68**	**6**	**3**	**1.7**	**0.68**
total xylenes	1330-20-7	4380	13140	22000	22000	22000	**11** J	**6.5**	**29** J	**5.1**	160 U	**1** J	**16**	**7.6**	**5.6**	**1.7** J
trichloroethene (TCE)	79-01-6	87.6	87.6	440	150	150	2.7 U	**0.091** J	2.7 U	**0.59** J	13 U	**2.9**	**0.12** J	**0.13** J	**5.9**	**4.6**
trichlorofluoromethane	75-69-4	NC	NC	155000	155000	155000	**2.7** J	**6.2**	**2.2** J	**2.9**	**3.8** J	**9**	**7.9**	**17**	**11**	**11**

TABLE 5
SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]	CAS Number	SGTs[2] based on MEDEP Chronic Commercial Scenario IAT (µg/m3) - 10/4/2011[3]	SGTs[2] based on MEDEP Subchronic (7 year) Commercial Scenario IAT (µg/m3) - 10/4/2011[4]	SGTs[2] based on MEDEP Commercial IAT (µg/m3) - 5/8/2013[5]	SGTs[2] based on EPA Industrial Air RSL (µg/m3) - May 2013[6]	Minimum SGT Criteria[7]	B250-SBS6		B250-SBS7		B250-SBS8		B250-SBS9		B250-SBS10	
SAMPLE DATE							10/25/2012 (duplicate)	5/23/2013 (duplicate)	10/25/2012	5/22/2013	10/25/2012	5/23/2013	10/24/2012	5/23/2013	10/25/2012	5/23/2013
BUILDING/AREA							AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP	
LOCATION							Southern central area – Room 155 (power plants / engine rebuilding)		SE area - Room 160		NE area - Room 151		NW area - Room 138		Eastern area - Room 157	
VOCs (µg/m^3)																
1,1,1-trichloroethane	71-55-6	219000	219000	1100000	1100000	1100000	29	34	10	8.7	13	15	16	48	8.7 J	12
1,1,2-trichlorotrifluoroethane	76-13-1	NC	NC	NC	6500000	6500000	0.73	1	1.5	1.4 J	0.75 J	3.8 U	0.92 J	1.8	19 U	1.4
1,1-dichloroethene	75-35-4	8760	8760	44000	44000	44000	0.25 U	1.375 U	0.25 U	2 U	0.25 U	2 U	0.25 U	0.25 U	9.9 U	0.25 U
1,2,4-trichlorobenzene	120-82-1	87.6	87.6	440	440	440	0.33 J	0.12 J	0.46 U	2.1 J	0.46 U	3.7 UJ	0.46 U	0.15 J	18 U	0.46 U
1,2-dichlorobenzene	95-50-1	NC	NC	44000	44000	44000	0.38 U	2.09 U	0.11 J	3 U	0.38 U	3 UJ	0.38 U	0.38 U	15 U	0.38 U
1,4-dichlorobenzene	106-46-7	55.75	199.09	13000	55	55	0.38 U	2.09 U	0.38 U	0.53 J	0.38 U	3 UJ	0.38 U	0.38 U	15 U	0.084 J
1,4-dioxane	123-91-1	131400	131400	650000	80	80	0.097 J	1.21 U	0.22 U	1.8 U	0.22 U	1.8 U	0.22 U	0.22 U	9 U	0.22 U
2-butanone (methyl ethyl ketone)	78-93-3	219000	219000	1100000	1100000	1100000	8.35	3.65	9.1	2.4 J	1.4	2.5 J	8.8	5.6	160	51
2-hexanone (methyl butyl ketone)	591-78-6	NC	NC	NC	6500	6500	1.1	1.43 U	1.5	2 U	0.29 J	2 UJ	2.1	1.3	100	72
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	131400	131400	650000	650000	650000	3.65	0.9	6.1	2 U	0.41 J	0.7 J	8.2	14	340	190
acetone	67-64-1	NC	NC	7000000	7000000	7000000	230	82	100	18	14	33	66	37 J	290	140
benzene	71-43-2	78.62	280.77	800	80	80	4.2	0.885	2.1	1.3 J	0.12 J	1.6 U	0.28 J	0.38 J	3 J	1.3
bromodichloromethane	75-27-4	NC	NC	NC	16.5	16.5	0.42 U	0.3 J	0.42 U	3.3 U	0.42 U	3.3 U	0.094 J	0.094 J	17 U	0.42 U
bromomethane	74-83-9	219	8760	1100	1100	1100	0.24 U	1.32 U	0.24 U	1.9 U	0.24 U	1.9 U	0.24 U	0.24 U	9.7 U	0.24 U
carbon disulfide	75-15-0	30660	91980	155000	155000	155000	1.85	1.2	1.9	1.3 J	1.2	4	8.1	5.9	7.8 U	0.93
carbon tetrachloride	56-23-5	102.2	365	1000	100	100	0.155	0.1 J	0.14 J	3.1 U	0.19 J	3.1 U	0.38 J	0.45 J	16 U	0.12 J
chlorobenzene	108-90-7	43800	43800	220000	11000	11000	0.29 U	1.595 U	0.29 U	2.3 U	0.29 U	2.3 UJ	0.29 U	0.29 U	12 U	0.29 U
chloroform	67-66-3	26.66	95.22	265	26.5	26.5	0.54	2.35	1.3	1.9 J	1.9	2.4 J	2	1.2	12 U	2.8
chloromethane	74-87-3	3942	39420	19500	19500	19500	1.45	0.715 U	0.13 U	1 U	0.13 U	1 U	0.13 U	0.13 U	5.2 U	0.13 U
cyclohexane	110-82-7	NC	NC	NC	1300000	1300000	0.22 U	1.21 U	0.22 U	1.7 U	0.22 U	1.7 U	0.22 U	0.22 U	8.6 U	0.22 U
dichlorodifluoromethane	75-71-8	8760	87600	44000	22000	22000	9.65	11.5	180	100	3.4	4.3 J	21	73 J	11 J	9.4
ethylbenzene	100-41-4	245.28	876	2450	245	245	0.23	0.13 J	0.29 J	2.2 U	0.15 J	2.2 UJ	0.34 J	0.18 J	11 U	0.61
m+p-xylenes	179601-23-1	NC	NC	NC	NC	NC	1.7	0.87 J	2.2 J	8.7 U	0.95 J	8.7 UJ	3.1	0.87 J	43 U	3.1
methyl tert-butyl ether	1634-04-4	2358.46	8423.08	23500	2350	2350	0.45	1.21 U	0.22 U	1.8 U	0.22 U	1.8 U	0.22 U	0.22 U	9 U	0.22 U
methylene chloride	75-09-2	1304.68	4659.57	130000	60000	60000	0.4 U	1.31 U	0.22 U	1.7 U	0.24 U	1.7 U	0.22 U	0.27 U	8.7 U	0.22 U
o-xylene	95-47-6	NC	NC	NC	22000	22000	0.24	0.15 J	0.31 J	2.2 U	0.19 J	2.2 UJ	0.48 J	0.24 J	11 U	0.69
styrene	100-42-5	13140	39420	65000	220000	65000	0.083	1.485 U	0.12 J	2.1 U	0.16 J	2.1 UJ	0.089 J	0.2 J	11 U	0.6
tetrachloroethene (PCE)	127-18-4	103.93	371.19	9000	2350	2350	24.5	43	34	60	17	28 J	100	320	20 J	41
toluene	108-88-3	219000	219000	1100000	1100000	1100000	4.5	1.05	2.7	3.8 J	1.7	1.1 J	0.68	1.2	9.4 U	3.2
total xylenes	1330-20-7	4380	13140	22000	22000	22000	3.3	1.8 J	4.3 J	32 U	2 J	32 UJ	6.1	2 J	160 U	6.8
trichloroethene (TCE)	79-01-6	87.6	87.6	440	150	150	0.097 J	0.091 J	0.22 J	2.7 U	5.4	5.4 J	0.97	2.1	13 U	0.64 J
trichlorofluoromethane	75-69-4	NC	NC	155000	155000	155000	130	110	35	19	140	140	4.2	11	76	68

TABLE 5
SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]	CAS Number	SGTs[2] based on MEDEP Chronic Commercial Scenario IAT (µg/m3) - 10/4/2011[3]	SGTs[2] based on MEDEP Subchronic (7 year) Commercial Scenario IAT (µg/m3) - 10/4/2011[4]	SGTs[2] based on MEDEP Commercial IAT (µg/m3) - 5/8/2013[5]	SGTs[2] based on EPA Industrial Air RSLs (µg/m3) - May 2013[6]	Minimum SGT Criteria[7]	B250-SBS11				B250-SBS12				B250-SBS13			
SAMPLE DATE							10/25/12		5/22/2013		10/25/12		5/22/2013		10/25/12		5/23/2013	
BUILDING/AREA							AF/O/PP				Avionics				Avionics			
LOCATION							SW area - Room 161				SW area - southern hallway				NW area - Room 109			
VOCs (µg/m^3)																		
1,1,1-trichloroethane	71-55-6	219000	219000	1100000	1100000	1100000	**6.5**		**7.6**		**21**		**15**	**J**	**5**		**2.8**	
1,1,2-trichlorotrifluoroethane	76-13-1	NC	NC	NC	6500000	6500000	**0.77**	**J**	4.8	U	**36**		**29**	**J**	**68**		**30**	
1,1-dichloroethene	75-35-4	8760	8760	44000	44000	44000	0.25	U	2.5	U	0.25	U	9.9	U	0.25	U	0.25	U
1,2,4-trichlorobenzene	120-82-1	87.6	87.6	440	440	440	0.46	U	**1.5**	**J**	0.46	U	18	UJ	0.46	U	**0.13**	**J**
1,2-dichlorobenzene	95-50-1	NC	NC	44000	44000	44000	0.38	U	3.8	U	0.38	U	15	UJ	0.38	U	0.38	U
1,4-dichlorobenzene	106-46-7	55.75	199.09	13000	55	55	0.38	U	3.8	U	0.38	U	15	UJ	**0.078**	**J**	0.38	U
1,4-dioxane	123-91-1	131400	131400	650000	80	80	0.22	U	2.2	U	0.22	U	9	U	0.22	U	0.22	U
2-butanone (methyl ethyl ketone)	78-93-3	219000	219000	1100000	1100000	1100000	**7.7**		**5.6**		**3.5**		7.4	U	**3.2**		**3.5**	
2-hexanone (methyl butyl ketone)	591-78-6	NC	NC	NC	6500	6500	**1.9**		**1.3**	**J**	**0.57**		10	UJ	**0.45**	**J**	**0.49**	**J**
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	131400	131400	650000	650000	650000	**2.9**		**7.4**		**1.6**		**11**	**J**	**1**		**0.78**	
acetone	67-64-1	NC	NC	7000000	7000000	7000000	**70**		**65**		**950**	**J**	**380**		**900**		**270**	
benzene	71-43-2	78.62	280.77	800	80	80	**0.64**		**0.54**	**J**	**0.45**		8	U	**0.24**	**J**	**0.64**	
bromodichloromethane	75-27-4	NC	NC	NC	16.5	16.5	0.42	U	4.2	U	**2.5**		17	U	0.42	U	**0.2**	**J**
bromomethane	74-83-9	219	8760	1100	1100	1100	0.24	U	2.4	U	0.24	U	9.7	U	0.24	U	0.24	U
carbon disulfide	75-15-0	30660	91980	155000	155000	155000	**15**		**7.2**		**16**		**5**	**J**	**11**		**9.3**	
carbon tetrachloride	56-23-5	102.2	365	1000	100	100	**0.33**	**J**	3.9	U	**0.23**	**J**	16	U	**0.3**	**J**	**0.46**	**J**
chlorobenzene	108-90-7	43800	43800	220000	11000	11000	0.29	U	2.9	U	**0.046**	**J**	12	UJ	0.29	U	0.29	U
chloroform	67-66-3	26.66	95.22	265	26.5	26.5	**0.68**		**1.8**	**J**	**31**		**7.8**	**J**	**0.54**	**J**	**1.6**	
chloromethane	74-87-3	3942	39420	19500	19500	19500	0.13	U	1.3	U	0.13	U	5.2	U	0.13	U	0.13	U
cyclohexane	110-82-7	NC	NC	NC	1300000	1300000	0.22	U	2.2	U	0.22	U	8.6	U	0.22	U	0.22	U
dichlorodifluoromethane	75-71-8	8760	87600	44000	22000	22000	**18**		**9.4**		**2**		**3.7**	**J**	**1.8**		**2.7**	
ethylbenzene	100-41-4	245.28	876	2450	245	245	**0.2**	**J**	2.7	U	**0.36**	**J**	11	UJ	**0.28**	**J**	**0.43**	**J**
m+p-xylenes	179601-23-1	NC	NC	NC	NC	NC	**1.6**	**J**	11	U	**2.4**		43	UJ	**1.6**	**J**	**2.4**	
methyl tert-butyl ether	1634-04-4	2358.46	8423.08	23500	2350	2350	**0.23**	**J**	2.2	U	0.22	U	9	U	0.22	U	0.22	U
methylene chloride	75-09-2	1304.68	4659.57	130000	60000	60000	0.42	U	2.2	U	0.22	U	8.7	U	0.22	U	0.38	U
o-xylene	95-47-6	NC	NC	NC	22000	22000	**0.2**	**J**	2.7	U	**0.38**	**J**	11	UJ	**0.26**	**J**	**0.52**	**J**
styrene	100-42-5	13140	39420	65000	220000	65000	**0.11**	**J**	2.7	U	**0.89**		11	UJ	**1.3**		**1.2**	
tetrachloroethene (PCE)	127-18-4	103.93	371.19	9000	2350	2350	**26**		**52**		**31**		**53**	**J**	**10**		**10**	
toluene	108-88-3	219000	219000	1100000	1100000	1100000	**19**		**0.9**	**J**	**0.83**		9.4	U	**1.2**		**1.6**	
total xylenes	1330-20-7	4380	13140	22000	22000	22000	**2.9**	**J**	41	U	**4.7**	**J**	160	UJ	**3.2**	**J**	**5.2**	
trichloroethene (TCE)	79-01-6	87.6	87.6	440	150	150	**0.52**	**J**	**1.6**	**J**	**31**		**22**	**J**	**0.14**	**J**	**0.35**	**J**
trichlorofluoromethane	75-69-4	NC	NC	155000	155000	155000	**7.9**		**6.2**	**J**	**5.2**		**4.5**	**J**	**7.3**		**7.3**	

Notes:
Only detected VOC compounds are shown
Bold font indicates positive results; shaded background indicates exceedance of SGT.
"Total xylenes" is the sum of the m+p-, and o-xylene fractions.
Where duplicate samples were collected, the average concentration is shown.
1. Sample prefix "NASB" is not shown.
2. Soil Gas Targets (SGTs) calculated by dividing indoor air criterion value by MEDEP-adopted attenuation factor of 0.02 (MEDEP, 2010).
3. Provided for information only: SGTs based on previous criteria; Maine Department of Environmental Protection (MEDEP), Table 6, Indoor Air Targets for Chronic Commercial Scenario for Multi-Contaminant Sites, October 4, 2011.
4. Provided for information only: SGTs based on previous criteria; MEDEP, Table 8, Indoor Air Targets for Subchronic (7 year) Commercial Scenario for Multi-Contaminant Sites, October 4, 2011.
5. MEDEP, Table 2, Maine Remedial Action Guidelines (RAGs) for Indoor Air Exposure Pathway, May 8, 2013.
6. EPA Regional Screening Levels (May, 2013).
7. Minimum of the MEDEP Commercial IAT or the EPA Industrial Air RSL value

AF/O/PP Airframes, Ordnance and Power Plants Area
CAS Chemical Abstracts Service
J estimated result
IAT indoor air target
µg/m^3 micrograms per cubic meter
NA not analyzed
NC no criteria or value
U not detected (with associated detection limit)
SGT soil gas target

TABLE 6
INDOOR AIR AND UTILITY TUNNEL AIR SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]	**CAS Number**	**MEDEP Chronic Commercial Scenario IAT (µg/m3) - 10/4/2011[2]**	**MEDEP Subchronic (7 year) Commercial Scenario IAT (µg/m3) - 10/4/2011[3]**	**MEDEP Commercial IAT (µg/m3) - 5/8/2013[4]**	**EPA Industrial Air RSLs (µg/m3) - May 2013[5]**	**Minimum IAT Criteria[6]**	B250-AIR1		B250-AIR2		B250-AIR3		B250-AIR4		B250-AIR5	
SAMPLE DATE							10/23/2012	5/21/2013	10/23/2012	5/21/2013	10/23/2012	5/21/2013	10/23/2012	5/21/2013	10/23/2012	5/21/2013
BUILDING/AREA							H4/Original AIMD		H4/Original AIMD		H4/Original AIMD		H4/Original AIMD		H4/Original AIMD	
LOCATION							H4 northwest corner		H4 southwest corner		H4 - adjacent to eastern wall, central portion		Northeastern area – east of H4 - Room 173		Southeastern area - east of H4 (storage)	
VOCs (µg/m^3)																
1,1,1-trichloroethane	71-55-6	4380	4380	22000	22000	22000	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	**0.039 J**
1,1,2-trichlorotrifluoroethane	76-13-1	NC	NC	NC	130000	130000	**0.44 J**	**0.57 J**	**0.44 J**	**0.6 J**	**0.45 J**	**0.66 J**	**0.5 J**	**0.69 J**	**0.46 J**	**0.52 J**
1,2,4-trichlorobenzene	120-82-1	1.752	1.752	8.8	8.8	8.8	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-dichlorobenzene	95-50-1	NC	NC	880	880	880	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-dichloroethane	107-06-2	0.47	1.68	4.7	0.47	0.47	**0.048 J**	0.25 U	**0.052 J**	**0.077 J**	**0.044 J**	0.25 U	**0.044 J**	0.25 U	**0.044 J**	0.25 U
1,2-dichloropropane	78-87-5	1.2264	4.38	12	1.2	1.2	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	**0.069 J**
1,3-dichlorobenzene	541-73-1	NC	NC	NC	NC	NC	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,4-dichlorobenzene	106-46-7	1.11	3.98	260	1.1	1.1	0.38 U	0.38 U	0.38 U	0.38 U	**0.06 J**	0.38 U	0.38 U	**0.14 J**	0.38 U	0.38 U
2-butanone (methyl ethyl ketone)	78-93-3	4380	4380	22000	22000	22000	**0.53**	**4.1**	**0.56**	**3.5**	**0.59**	**2.4**	**0.5**	**3.2**	**0.59**	**1.7**
2-hexanone (methyl butyl ketone)	591-78-6	NC	NC	NC	130	130	**0.21 J**	**0.24 J**	**0.19 J**	0.26 UJ	**0.25 J**	0.26 U	**0.13 J**	0.26 U	**0.15 J**	0.26 U
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	2628	2628	13000	13000	13000	**0.41 J**	0.26 U	**0.4 J**	**0.082 J**	**0.53**	0.26 U	**0.29 J**	0.26 U	**0.27 J**	0.26 U
acetone	67-64-1	NC	NC	140000	140000	140000	**5.2**	**10**	**5.7**	**7.8**	**4.5**	**7.4**	**3.8**	**9.3**	**4**	**6.2 J**
benzene	71-43-2	1.57	5.62	16	1.6	1.6	**0.23 J**	**0.22 J**	**0.24 J**	**0.22 J**	**0.24 J**	**0.22 J**	**0.23 J**	**0.23 J**	**0.23 J**	**0.18 J**
carbon disulfide	75-15-0	613.2	1839.6	3100	3100	3100	**0.087 J**	**0.04 J**	0.19 U	0.19 U	0.19 U	**0.14 J**	0.19 U	**0.053 J**	0.19 U	**0.1 J**
carbon tetrachloride	56-23-5	2.044	7.3	20	2	2	**0.42 J**	**0.53 J**	**0.4 J**	**0.52 J**	**0.34 J**	**0.56 J**	**0.32 J**	**0.56 J**	**0.33 J**	**0.48 J**
chloroform	67-66-3	0.53	1.90	5.3	0.53	0.53	**0.063 J**	**0.098 J**	**0.063 J**	**0.093 J**	**0.058 J**	**0.14 J**	**0.054 J**	**0.14 J**	**0.058 J**	**0.1 J**
chloromethane	74-87-3	78.84	788.4	390	390	390	**0.74**	**1.1 J**	**0.8**	**1 J**	**0.74**	**1.1**	**0.74**	**1.1**	**0.7**	**0.95**
cyclohexane	110-82-7	NC	NC	NC	26000	26000	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
dichlorodifluoromethane	75-71-8	175.2	1752	880	440	440	**2**	**2.6**	**2**	**2.4**	**1.6**	**2.9**	**1.6**	**2.9**	**1.7**	**2.7**
ethylbenzene	100-41-4	4.9056	17.52	49	4.9	4.9	**0.12 J**	**0.17 J**	**0.15 J**	**0.12 J**	**0.13 J**	0.27 U	**0.14 J**	**0.087 J**	**0.17 J**	**0.069 J**
m+p-xylenes	179601-23-1	NC	NC	NC	NC	NC	**1 J**	**1 J**	**1.2 J**	**0.74 J**	**1.3 J**	1.1 U	**0.95 J**	**0.44 J**	**1.2 J**	**0.36 J**
methylene chloride	75-09-2	26.09	93.19	2600	1200	1200	**0.31 J**	1.4 U	**0.28 J**	1.2 U	**0.34 J**	1.9 U	**0.35 J**	1.7 U	**0.38 J**	1.3 U
o-xylene	95-47-6	NC	NC	NC	440	440	**0.14 J**	**0.17 J**	**0.17 J**	**0.14 J**	**0.16 J**	0.27 U	**0.13 J**	**0.095 J**	**0.2 J**	**0.091 J**
styrene	100-42-5	262.8	788.4	1300	4400	1300	**0.077 J**	**0.15 J**	**0.094 J**	**0.1 J**	**0.085 J**	0.27 U	**0.068 J**	**0.1 J**	**0.13 J**	0.27 U
tetrachloroethene (PCE)	127-18-4	2.08	7.42	180	47	47	0.42 U	**0.17 J**	0.42 U	**0.58 J**	**0.2 J**	**0.11 J**	0.42 U	**0.13 J**	**0.18 J**	**0.15 J**
toluene	108-88-3	4380	4380	22000	22000	22000	**1.4**	**32**	**1.6**	**8.3**	**1.5**	**3.3**	**1**	**2.8**	**1.1**	**2.6**
total xylenes	1330-20-7	87.6	262.8	440	440	440	**2.1 J**	**2.1 J**	**2.3 J**	**1.6 J**	**2.5 J**	4.1 U	**1.8 J**	**0.95 J**	**2.5 J**	**0.83 J**
trichloroethene (TCE)	79-01-6	1.752	1.752	8.8	3	3	**0.11 J**	**1.2**	0.34 U	**0.31 J**	0.34 U	**0.12 J**	0.34 U	**0.17 J**	0.34 U	**0.75**
trichlorofluoromethane	75-69-4	NC	NC	3100	3100	3100	**2.4**	**7.9**	**2.3**	**6.7**	**2.9**	**9**	**4.4**	**13**	**2.4**	**9**

SAMPLE ID[1]	CAS Number	MEDEP Chronic Commercial Scenario IAT (µg/m3) - 10/4/2011[2]	MEDEP Subchronic (7 year) Commercial Scenario IAT (µg/m3) - 10/4/2011[3]	MEDEP Commercial IAT (µg/m3) - 5/8/2013[4]	EPA Industrial Air RSLs (µg/m3) - May 2013[5]	Minimum IAT Criteria[6]	B250-AIR6		B250-AIR7		B250-AIR8		B250-AIR9		B250-AIR10	
SAMPLE DATE							10/23/2012	5/21/2013 (duplicate)	10/23/2012	5/21/2013	10/23/2012	5/21/2013	10/23/2012	5/21/2013	10/23/2012	5/21/2013
BUILDING/AREA							AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP	
LOCATION							Southern central area – Room 155 (power plants / engine rebuilding)		SE area - Room 160		NE area - Room 151		NW area - Room 138		Eastern area - Room 157	
VOCs (µg/m^3)																
1,1,1-trichloroethane	71-55-6	4380	4380	22000	22000	22000	0.34 U	**0.039** J	0.34 U	**0.042** J	0.34 U	0.34 U	**0.065** J	**0.2** J	**0.036** J	0.34 U
1,1,2-trichlorotrifluoroethane	76-13-1	NC	NC	NC	130000	130000	**0.46** J	**0.565**	**0.47** J	**0.58** J	**0.47** J	**0.65** J	**0.47** J	**1.1**	**0.47** J	**0.7** J
1,2,4-trichlorobenzene	120-82-1	1.752	1.752	8.8	8.8	8.8	0.46 U	**0.18** J	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	**0.47** J	0.46 U
1,2-dichlorobenzene	95-50-1	NC	NC	880	880	880	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	**0.15** J	**0.11** J	0.38 U
1,2-dichloroethane	107-06-2	0.47	1.68	4.7	0.47	0.47	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**0.15** J	**0.048** J	**0.085** J
1,2-dichloropropane	78-87-5	1.2264	4.38	12	1.2	1.2	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,3-dichlorobenzene	541-73-1	NC	NC	NC	NC	NC	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	**0.13** J	**0.09** J	0.38 U
1,4-dichlorobenzene	106-46-7	1.11	3.98	260	1.1	1.1	0.38 U	**0.16** J	0.38 U	0.38 U	0.38 U	**0.16** J	0.38 U	**0.29** J	**0.12** J	**0.13** J
2-butanone (methyl ethyl ketone)	78-93-3	4380	4380	22000	22000	22000	**0.71**	**2.85**	**1.7**	**1.6**	**0.94**	**2.6**	**0.62**	**3.5**	**0.97**	**2**
2-hexanone (methyl butyl ketone)	591-78-6	NC	NC	NC	130	130	**0.15** J	**0.11** J	**0.2** J	**0.14** J	**0.22** J	0.26 U	**0.17** J	0.26 U	**0.2** J	0.26 U
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	2628	2628	13000	13000	13000	**0.27** J	0.26 U	**0.29** J	0.26 U	**0.66**	0.26 U	**0.32** J	0.26 U	**0.37** J	0.26 U
acetone	67-64-1	NC	NC	140000	140000	140000	**5**	**7.7**	**4**	**5.7**	**4.7**	**7.8**	**4.3**	**11**	**5.2**	**6.2**
benzene	71-43-2	1.57	5.62	16	1.6	1.6	**0.23** J	**0.225**	**0.23** J	**0.19** J	**0.3** J	**0.22** J	**0.23** J	**0.38** J	**0.24** J	**0.2** J
carbon disulfide	75-15-0	613.2	1839.6	3100	3100	3100	**0.096** J	**0.0485**	**0.087** J	**0.04** J	**0.47**	**0.059** J	**0.093** J	**0.084** J	**0.2** J	**0.047** J
carbon tetrachloride	56-23-5	2.044	7.3	20	2	2	**0.39** J	**0.475**	**0.32** J	**0.59** J	**0.33** J	**0.56** J	**0.34** J	**1**	**0.42** J	**0.58** J
chloroform	67-66-3	0.53	1.90	5.3	0.53	0.53	**0.068** J	**0.119**	**0.058** J	**0.093** J	**0.058** J	**0.13** J	**0.058** J	**0.21** J	**0.073** J	**0.12** J
chloromethane	74-87-3	78.84	788.4	390	390	390	**0.74**	**0.95**	**0.7**	**1.1** J	**0.72**	**1.1**	**0.72**	**1.8**	**0.85**	**1.1**
cyclohexane	110-82-7	NC	NC	NC	26000	26000	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
dichlorodifluoromethane	75-71-8	175.2	1752	880	440	440	**2**	**2.6**	**1.7**	**2.8**	**1.7**	**2.9**	**1.7**	**4.6**	**2.1**	**3**
ethylbenzene	100-41-4	4.9056	17.52	49	4.9	4.9	**0.14** J	**0.091**	**0.2** J	**0.095** J	**0.19** J	**0.069** J	**0.14** J	**0.25** J	**0.11** J	**0.069** J
m+p-xylenes	179601-23-1	NC	NC	NC	NC	NC	**1** J	**0.505**	**1.4** J	**0.61** J	**1.6** J	**0.36** J	**1** J	**1** J	**0.87** J	**0.41** J
methylene chloride	75-09-2	26.09	93.19	2600	1200	1200	0.28 U	1.65 U	0.35 U	1.1 U	0.35 U	1.6 U	**0.34** J	2.5 U	**0.26** J	1.6 U
o-xylene	95-47-6	NC	NC	NC	440	440	**0.16** J	**0.125**	**0.21** J	**0.15** J	**0.22** J	**0.082** J	**0.16** J	**0.29** J	**0.15** J	**0.1** J
styrene	100-42-5	262.8	788.4	1300	4400	1300	**0.077** J	**0.0765**	**0.12** J	**0.077** J	**0.11** J	**0.068** J	**0.068** J	**0.6**	**0.15** J	0.27 U
tetrachloroethene (PCE)	127-18-4	2.08	7.42	180	47	47	**0.12** J	**0.48**	**0.15** J	**0.14** J	**0.12** J	0.42 U	**0.68** J	**1.1**	**0.1** J	**0.38** J
toluene	108-88-3	4380	4380	22000	22000	22000	**1**	**6**	**1.1**	**9**	**1.4**	**22**	**1**	**1.4**	**0.72**	**0.83**
total xylenes	1330-20-7	87.6	262.8	440	440	440	**2.1** J	**1.1**	**2.7** J	**1.3** J	**3** J	**0.79** J	**2.1** J	**2.3** J	**1.8** J	**0.92** J
trichloroethene (TCE)	79-01-6	1.752	1.752	8.8	3	3	0.34 U	**0.14**	0.34 U	**12**	0.34 U	**0.13** J	**0.17** J	**1.1**	0.34 U	0.34 U
trichlorofluoromethane	75-69-4	NC	NC	3100	3100	3100	**2.8** J	**5.65**	**2.4** J	**7.3**	**3.4** J	**4.1**	**1.8**	**8.4**	**2.9**	**5.6**

TABLE 6
INDOOR AIR AND UTILITY TUNNEL AIR SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 3 OF 3

SAMPLE ID[(1)]	CAS Number	MEDEP Chronic Commercial Scenario IAT (µg/m3) - 10/4/2011[(2)]	MEDEP Subchronic (7 year) Commercial Scenario IAT (µg/m3) - 10/4/2011[(3)]	MEDEP Commercial IAT (µg/m3) - 5/8/2013[(4)]	EPA Industrial Air RSLs (µg/m3) - May 2013[(5)]	Minimum IAT Criteria[(6)]	B250-AIR11		B250-AIR12		B250-AIR13		B250-AIR14
SAMPLE DATE							10/23/2012	5/21/2013 (duplicate)	10/23/2012	5/21/2013	10/23/2012	5/21/2013	10/23/2012
BUILDING/AREA							AF/O/PP		Avionics		Avionics		H4/Original AIMD
LOCATION							SW area - Room 161		SW area - southern hallway		NW area - Room 109		utility tunnel
VOCs ($\mu g/m^3$)													
1,1,1-trichloroethane	71-55-6	4380	4380	22000	22000	22000	**0.044** J	0.34 U	0.34 U	0.34 U	**0.042** J	0.34 U	0.34 U
1,1,2-trichlorotrifluoroethane	76-13-1	NC	NC	NC	130000	130000	**0.45** J	**0.56** J	**0.46** J	**0.6** J	**0.55** J	**0.66** J	**0.45** J
1,2,4-trichlorobenzene	120-82-1	1.752	1.752	8.8	8.8	8.8	0.46 U	0.46 U	0.46 U	**0.12** J	0.46 U	0.46 U	0.46 U
1,2-dichlorobenzene	95-50-1	NC	NC	880	880	880	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-dichloroethane	107-06-2	0.47	1.68	4.7	0.47	0.47	0.25 U	0.25 U	0.25 U	**0.073** J	0.25 U	0.25 U	0.25 U
1,2-dichloropropane	78-87-5	1.2264	4.38	12	1.2	1.2	0.29 U	0.29 U	0.29 U	**0.069** J	0.29 U	0.29 U	0.29 U
1,3-dichlorobenzene	541-73-1	NC	NC	NC	NC	NC	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,4-dichlorobenzene	106-46-7	1.11	3.98	260	1.1	1.1	0.38 U	0.38 U	0.38 U	**0.11** J	0.38 U	**0.11** J	**0.066** J
2-butanone (methyl ethyl ketone)	78-93-3	4380	4380	22000	22000	22000	**0.65**	**1.8**	**0.5**	**1.8**	**0.47**	**1.9**	**0.59**
2-hexanone (methyl butyl ketone)	591-78-6	NC	NC	NC	130	130	**0.19** J	**0.078** J	**0.15** J	0.26 U	**0.19** J	0.26 U	**0.31** J
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	2628	2628	13000	13000	13000	**0.33** J	0.26 U	**0.28** J	0.26 U	**0.38** J	0.26 U	**1**
acetone	67-64-1	NC	NC	140000	140000	140000	**5.7**	**6.4**	**4.3**	**5.9** J	**4.7**	**6.9**	**4**
benzene	71-43-2	1.57	5.62	16	1.6	1.6	**0.24** J	**0.21** J	**0.23** J	**0.18** J	**0.22** J	**0.22** J	**0.29** J
carbon disulfide	75-15-0	613.2	1839.6	3100	3100	3100	0.19 U	**0.047** J	**0.084** J	**0.11** J	0.19 U	**0.11** J	**0.075** J
carbon tetrachloride	56-23-5	2.044	7.3	20	2	2	**0.43** J	**0.52** J	**0.33** J	**0.5** J	**0.39** J	**0.56** J	**0.42** J
chloroform	67-66-3	0.53	1.90	5.3	0.53	0.53	**0.068** J	**0.098** J	**0.058** J	**0.12** J	**0.063** J	**0.13** J	**0.13** J
chloromethane	74-87-3	78.84	788.4	390	390	390	**0.78**	**1.1** J	**0.7**	**0.97**	**0.8**	**1.1**	**0.45**
cyclohexane	110-82-7	NC	NC	NC	26000	26000	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
dichlorodifluoromethane	75-71-8	175.2	1752	880	440	440	**2.1**	**2.8**	**1.6**	**2.4**	**1.9**	**2.8**	**1.9**
ethylbenzene	100-41-4	4.9056	17.52	49	4.9	4.9	**0.15** J	**0.11** J	**0.2** J	**0.11** J	**0.14** J	**0.12** J	**0.16** J
m+p-xylenes	179601-23-1	NC	NC	NC	NC	NC	**1** J	**0.61** J	**1.1** J	**0.45** J	**0.95** J	**0.49** J	**1.6** J
methylene chloride	75-09-2	26.09	93.19	2600	1200	1200	**0.32** J	1.6 U	**0.3** J	1.4 U	0.38 U	1.4 U	0.3 U
o-xylene	95-47-6	NC	NC	NC	440	440	**0.17** J	**0.16** J	**0.17** J	**0.1** J	**0.15** J	**0.12** J	**0.22** J
styrene	100-42-5	262.8	788.4	1300	4400	1300	**0.1** J	**0.094** J	**0.072** J	**0.064** J	0.27 U	**0.11** J	**0.14** J
tetrachloroethene (PCE)	127-18-4	2.08	7.42	180	47	47	**0.12** J	**0.2** J	**0.16** J	0.42 U	**0.66** J	0.42 U	**1.2**
toluene	108-88-3	4380	4380	22000	22000	22000	**1**	**0.79**	**0.98**	**0.53**	**0.72**	**0.98**	**1.6**
total xylenes	1330-20-7	87.6	262.8	440	440	440	**2.1** J	**1.4** J	**2.2** J	**0.99** J	**1.8** J	**1.1** J	**3.1** J
trichloroethene (TCE)	79-01-6	1.752	1.752	8.8	3	3	0.34 U	**0.51** J	0.34 U	**8**	0.34 U	0.34 U	**0.18** J
trichlorofluoromethane	75-69-4	NC	NC	3100	3100	3100	**3.8**	**7.3**	**2**	**5**	**1.8**	**6.2**	**1.7**

Notes:
Only detected VOC compounds are shown
Bold font indicates positive results; shaded background indicates exceedance of minimum criteria.
"Total xylenes" is the sum of the m+p-, and o-xylene fractions.
Where duplicate samples were collected, the average concentration is shown.
1. Sample prefix "NASB" is not shown.
2. Provided for information only: Maine Department of Environmental Protection (MEDEP), Table 6, Indoor Air Targets for Chronic Commercial Scenario for Multi-Contaminant Sites, October 4, 2011.
3. Provided for information only: MEDEP, Table 8, Indoor Air Targets for Subchronic (7 year) Commercial Scenario for Multi-Contaminant Sites, October 4, 2011.
4. MEDEP, Table 2, Maine Remedial Action Guidelines (RAGs) for Indoor Air Exposure Pathway, May 8, 2013.
5. EPA Regional Screening Levels (May, 2013).
6. Minimum of the MEDEP Commercial IAT or the EPA Industrial Air RSL value
AF/O/PP Airframes, Ordnance and Power Plants Area
CAS Chemical Abstracts Service
J estimated result
IAT indoor air target
$\mu g/m^3$ micrograms per cubic meter
NA not analyzed
NC no criteria or value
U not detected (with associated detection limit)

TABLE 7
OUTSIDE AMBIENT AIR SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID(1)	CAS Number	Statewide Outside Ambient Average(2)	AB102312		AB_052113	
SAMPLE DATE			10/23/2012		5/21/2013	
LOCATION			outside B250 northwest corner			
VOCs (μg/m^3)						
1,1,2-trichlorotrifluoroethane	76-13-1	NC	**0.48**	**J**	**0.55**	**J**
1,4-dichlorobenzene	106-46-7	0.03	0.75	U	**0.09**	**J**
2-butanone	78-93-3	2.26	**1.4**		**1.1**	
4-methyl-2-pentanone	108-10-1	0.37	**0.35**	**J**	0.26	U
acetone	67-64-1	NC	**15**		**4**	**J**
benzene	71-43-2	0.83	**0.24**	**J**	**0.15**	**J**
carbon disulfide	75-15-0	0.18	**0.47**	**J**	**0.11**	**J**
carbon tetrachloride	56-23-5	0.57	**0.43**	**J**	**0.45**	**J**
chloroform	67-66-3	0.09	0.61	U	**0.083**	**J**
chloromethane	74-87-3	0.67	**0.89**		**0.97**	
dichlorodifluoromethane	75-71-8	2.85	**1.9**		**2.3**	
m+p-xylenes	179601-23-1	NC	**0.7**	**J**	1.1	U
o-xylene	95-47-6	NC	**0.11**	**J**	0.27	U
tetrachloroethene	127-18-4	0.11	**0.23**	**J**	**8.8**	
toluene	108-88-3	2.81	**0.6**	**J**	**0.35**	**J**
total xylenes	1330-20-7	1.16	**1.4**	**J**	4.1	U
trichloroethene	79-01-6	0.03	0.67	U	**0.91**	
trichlorofluoromethane	75-69-4	NC	**1.1**	**J**	**1.1**	

Notes:
Only detected VOC compounds are shown
Bold font indicates positive results; shaded background indicates exceedance of. Statewide Outside Ambient Average value.
"Total xylenes" is the sum of the m+p-, and o-xylene fractions.
1. Sample prefix "NASB-B250" is not shown.
2. MEDEP Table B9 DQO Considerations and results Evaluation: Comparing Residential Chronic IATs to Typical Indoor Levels, Outside Ambient, End Point of Remediation and MRLs, January 14, 2010.
CAS Chemical Abstracts Service
J estimated result
μg/m^3 micrograms per cubic meter
NC no criteria or value
U not detected (with associated detection limit)
VOC volatile organic compound

TABLE 8A
ROUND 1 (OCTOBER 2012) INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
SUPPLEMENTAL GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]	CAS Number	Minimum Indoor Air Criteria[2]	Minimum Soil Gas Criteria[3]	B250-AIR1		B250-SBS1		B250-AIR2		B250-SBS2		B250-AIR3		B250-SBS3		B250-AIR4		B250-SBS4		B250-AIR5		B250-SBS5		B250-AIR6		B250-SBS6	
SAMPLE DATE				10/23/2012		10/24/2012		10/23/2012		10/24/2012		10/23/2012		10/24/2012		10/23/2012		10/25/2012		10/23/2012		10/24/2012		10/23/2012		10/25/2012 (duplicate)	
MEDIA				indoor air		sub-slab soil gas		indoor air		sub-slab soil gas		indoor air		sub-slab soil gas		indoor air		sub-slab soil gas		indoor air		sub-slab soil gas		indoor air		sub-slab soil gas	
BUILDING/AREA				H4/Original AIMD				H4/Original AIMD				H4/Original AIMD				H4/Original AIMD				H4/Original AIMD				AF/O/PP			
LOCATION				H4 NW corner				H4 SW corner				H4 - adjacent to east wall, central portion				NE section, east of H4, Room 173				SE section, east of H4 (storage)				Southern central section - Room 155			
VOCs (µg/m^3)																											
1,1,1-trichloroethane	71-55-6	22000	1100000	0.34	U	**0.49**	J	0.34	U	**10**		0.34	U	14	U	0.34	U	**2.1**		0.34	U	**400**		0.34	U	**29**	
1,1,2-trichlorotrifluoroethane	76-13-1	130000	6500000	**0.44**	J	**21**		**0.44**	J	**19**		**0.45**	J	19	U	**0.5**	J	**0.62**	J	**0.46**	J	**28**		**0.46**	J	**0.73**	
1,1-dichloroethene	75-35-4	880	44000	0.25	U	2	U	0.25	U	2	U	0.25	U	9.9	U	0.25	U	0.25	U	0.25	U	**0.095**	J	0.25	U	0.25	U
1,2,4-trichlorobenzene	120-82-1	8.8	440	0.46	U	3.7	U	0.46	U	3.7	U	0.46	U	18	U	0.46	U	**0.33**	J	0.46	U	**0.12**	J	0.46	U	**0.33**	J
1,2-dichlorobenzene	95-50-1	880	44000	0.38	U	3	U	0.38	U	3	U	0.38	U	15	U	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
1,2-dichloroethane	107-06-2	0.47	23.5	**0.048**	J	2	U	**0.052**	J	2	U	**0.044**	J	10	U	**0.044**	J	0.25	U	**0.044**	J	0.25	U	0.25	U	0.25	U
1,3-dichlorobenzene	541-73-1	NC	NC	0.38	U	3	U	0.38	U	3	U	0.38	U	15	U	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
1,4-dichlorobenzene	106-46-7	1.1	55	0.38	U	3	U	0.38	U	3	U	**0.06**	J	15	U	0.38	U	**0.18**	J	0.38	U	**0.096**	J	0.38	U	0.38	U
1,4-dioxane	123-91-1	1.6	80	0.22	U	**1.3**	J	0.22	U	**1.3**	J	0.22	U	9	U	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	**0.097**	J
2-butanone (methyl ethyl ketone)	78-93-3	22000	1100000	**0.53**		**7.7**		**0.56**		**5.3**		**0.59**		**9.4**	J	**0.5**		**15**		**0.59**		**9.1**		**0.71**		**8.35**	
2-hexanone (methyl butyl ketone)	591-78-6	130	6500	**0.21**	J	**0.9**	J	**0.19**	J	**0.57**	J	**0.25**	J	10	U	**0.13**	J	**3.9**		**0.15**	J	**2.4**		**0.15**	J	**1.1**	
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	13000	650000	**0.41**	J	**4.9**		**0.4**	J	**3.2**	J	**0.53**		**17**	J	**0.29**	J	**3.5**		**0.27**	J	**3.1**		**0.27**	J	**3.65**	
acetone	67-64-1	140000	7000000	**5.2**		**950**	J	**5.7**		**1000**	J	**4.5**		**300**		**3.8**		**130**		**4**		**170**		**5**		**230**	
benzene	71-43-2	1.6	80	**0.23**	J	**0.61**	J	**0.24**	J	**0.45**	J	**0.24**	J	8	U	**0.23**	J	**0.77**		**0.23**	J	**1.5**		**0.23**	J	**4.2**	
bromodichloromethane	75-27-4	0.33	16.5	0.42	U	3.3	U	0.42	U	3.3	U	0.42	U	17	U	0.42	U	**0.08**	J	0.42	U	0.42	U	0.42	U	0.42	U
bromomethane	74-83-9	22	1100	0.24	U	1.9	U	0.24	U	1.9	U	0.24	U	9.7	U	0.24	U	0.24	U	0.24	U	**0.34**	J	0.24	U	0.24	U
carbon disulfide	75-15-0	3100	155000	**0.087**	J	**15**		0.19	U	**3.1**	J	0.19	U	**5**	J	0.19	U	**3.7**		0.19	U	**9.3**		**0.096**	J	**1.85**	
carbon tetrachloride	56-23-5	2	100	**0.42**	J	3.1	U	**0.4**	J	3.1	U	**0.34**	J	16	U	**0.32**	J	**0.46**	J	**0.33**	J	**0.18**	J	**0.39**	J	**0.155**	
chlorobenzene	108-90-7	220	11000	0.29	U	2.3	U	0.29	U	2.3	U	0.29	U	12	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
chloroform	67-66-3	0.53	26.5	**0.063**	J	**1.8**	J	**0.063**	J	**0.58**	J	**0.058**	J	12	U	**0.054**	J	**2.3**		**0.058**	J	**3.9**		**0.068**	J	**0.54**	
chloromethane	74-87-3	390	19500	**0.74**		1	U	**0.8**		**2.9**		**0.74**		5.2	U	**0.74**		0.13	U	**0.7**		0.13	U	**0.74**		**1.45**	
cyclohexane	110-82-7	26000	1300000	0.22	U	1.7	U	0.22	U	1.7	U	0.22	U	8.6	U	0.22	U	0.22	U	0.22	U	**0.38**	J	0.22	U	0.22	U
dichlorodifluoromethane	75-71-8	440	22000	**2**		**2.1**	J	**2**		**3.2**	J	**1.6**		**2.2**	J	**1.6**		**1.9**		**1.7**		**3300**		**2**		**9.65**	
ethylbenzene	100-41-4	4.9	245	**0.12**	J	**0.69**	J	**0.15**	J	**1.5**	J	**0.13**	J	11	U	**0.14**	J	**0.87**		**0.17**	J	**0.37**	J	**0.14**	J	**0.23**	
m+p-xylenes	179601-23-1	NC	NC	**1**	J	**4.9**	J	**1.2**	J	**12**	J	**1.3**	J	43	U	**0.95**	J	**8.2**		**1.2**	J	**2.4**		**1**	J	**1.7**	
methyl tert-butyl ether	1634-04-4	47	2350	0.22	U	1.8	U	0.22	U	1.8	U	0.22	U	9	U	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	**0.45**	
methylene chloride	75-09-2	1200	60000	**0.31**	J	0.62	U	**0.28**	J	0.9	U	**0.34**	J	**5.2**	J	**0.35**	J	0.49	U	**0.38**	J	0.23	U	0.28	U	0.4	U
o-xylene	95-47-6	440	22000	**0.14**	J	**1.2**	J	**0.17**	J	**3.4**	J	**0.16**	J	11	U	**0.13**	J	**1.3**		**0.2**	J	**0.65**		**0.16**	J	**0.24**	
styrene	100-42-5	1300	65000	**0.077**	J	2.1	U	**0.094**	J	2.1	U	**0.085**	J	11	U	**0.068**	J	**0.22**	J	**0.13**	J	**0.39**	J	**0.077**	J	**0.083**	
tetrachloroethene (PCE)	127-18-4	47	2350	0.42	U	**130**		0.42	U	**740**		**0.2**	J	**56**		0.42	U	**54**		**0.18**	J	**6600**		**0.12**	J	**24.5**	
toluene	108-88-3	22000	1100000	**1.4**		**2.5**	J	**1.6**		**10**		**1.5**		9.4	U	**1**		**6**		**1.1**		**1.7**		**1**		**4.5**	
total xylenes	1330-20-7	440	22000	**2.1**	J	**11**	J	**2.3**	J	**29**	J	**2.5**	J	160	U	**1.8**	J	**16**		**2.5**	J	**5.6**		**2.1**	J	**3.3**	
trichloroethene (TCE)	79-01-6	3	150	**0.11**	J	2.7	U	0.34	U	2.7	U	0.34	U	13	U	0.34	U	**0.12**	J	0.34	U	**5.9**		0.34	U	**0.097**	J
trichlorofluoromethane	75-69-4	3100	155000	**2.4**		**2.7**	J	**2.3**		**2.2**	J	**2.9**		**3.8**	J	**4.4**		**7.9**		**2.4**		**11**		**2.8**	J	**130**	

TABLE 8A
ROUND 1 (OCTOBER 2012) INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
SUPPLEMENTAL GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]	CAS Number	Minimum Indoor Air Criteria[2]	Minimum Soil Gas Criteria[3]	B250-AIR7	B250-SBS7	B250-AIR8	B250-SBS8	B250-AIR9	B250-SBS9	B250-AIR10	B250-SBS10	B250-AIR11	B250-SBS11
SAMPLE DATE				10/23/12	10/25/12	10/23/12	10/25/12	10/23/12	10/24/12	10/23/12	10/25/12	10/23/12	10/25/12
MEDIA				indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas
BUILDING/AREA				AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP	
LOCATION				SE section - Room 160		NE section - Room 151		NW section - Room 138		Eastern section - Room 157		SW section - Room 161	
VOCs (µg/m^3)													
1,1,1-trichloroethane	71-55-6	22000	1100000	0.34 U	10	0.34 U	13	0.065 J	16	0.036 J	8.7 J	0.044 J	6.5
1,1,2-trichlorotrifluoroethane	76-13-1	130000	6500000	0.47 J	1.5	0.47 J	0.75 J	0.47 J	0.92 J	0.47 J	19 U	0.45 J	0.77 J
1,1-dichloroethene	75-35-4	880	44000	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	9.9 U	0.25 U	0.25 U
1,2,4-trichlorobenzene	120-82-1	8.8	440	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.47 J	18 U	0.46 U	0.46 U
1,2-dichlorobenzene	95-50-1	880	44000	0.38 U	0.11 J	0.38 U	0.38 U	0.38 U	0.38 U	0.11 J	15 U	0.38 U	0.38 U
1,2-dichloroethane	107-06-2	0.47	23.5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.048 J	10 U	0.25 U	0.25 U
1,3-dichlorobenzene	541-73-1	NC	NC	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.09 J	15 U	0.38 U	0.38 U
1,4-dichlorobenzene	106-46-7	1.1	55	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.12 J	15 U	0.38 U	0.38 U
1,4-dioxane	123-91-1	1.6	80	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	9 U	0.22 U	0.22 U
2-butanone (methyl ethyl ketone)	78-93-3	22000	1100000	1.7	9.1	0.94	1.4	0.62	8.8	0.97	160	0.65	7.7
2-hexanone (methyl butyl ketone)	591-78-6	130	6500	0.2 J	1.5	0.22 J	0.29 J	0.17 J	2.1	0.2 J	100	0.19 J	1.9
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	13000	650000	0.29 J	6.1	0.66	0.41 J	0.32 J	8.2	0.37 J	340	0.33 J	2.9
acetone	67-64-1	140000	7000000	4	100	4.7	14	4.3	66	5.2	290	5.7	70
benzene	71-43-2	1.6	80	0.23 J	2.1	0.3 J	0.12 J	0.23 J	0.28 J	0.24 J	3 J	0.24 J	0.64
bromodichloromethane	75-27-4	0.33	16.5	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.094 J	0.42 U	17 U	0.42 U	0.42 U
bromomethane	74-83-9	22	1100	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	9.7 U	0.24 U	0.24 U
carbon disulfide	75-15-0	3100	155000	0.087 J	1.9	0.47	1.2	0.093 J	8.1	0.2 J	7.8 U	0.19 U	15
carbon tetrachloride	56-23-5	2	100	0.32 J	0.14 J	0.33 J	0.19 J	0.34 J	0.38 J	0.42 J	16 U	0.43 J	0.33 J
chlorobenzene	108-90-7	220	11000	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	12 U	0.29 U	0.29 U
chloroform	67-66-3	0.53	26.5	0.058 J	1.3	0.058 J	1.9	0.058 J	2	0.073 J	12 U	0.068 J	0.68
chloromethane	74-87-3	390	19500	0.7	0.13 U	0.72	0.13 U	0.72	0.13 U	0.85	5.2 U	0.78	0.13 U
cyclohexane	110-82-7	26000	1300000	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	8.6 U	0.22 U	0.22 U
dichlorodifluoromethane	75-71-8	440	22000	1.7	180	1.7	3.4	1.7	21	2.1	11 J	2.1	18
ethylbenzene	100-41-4	4.9	245	0.2 J	0.29 J	0.19 J	0.15 J	0.14 J	0.34 J	0.11 J	11 U	0.15 J	0.2 J
m+p-xylenes	179601-23-1	NC	NC	1.4 J	2.2 J	1.6 J	0.95 J	1 J	3.1	0.87 J	43 U	1 J	1.6 J
methyl tert-butyl ether	1634-04-4	47	2350	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	9 U	0.22 U	0.23 J
methylene chloride	75-09-2	1200	60000	0.35 U	0.22 U	0.35 U	0.24 U	0.34 J	0.22 U	0.26 J	8.7 U	0.32 J	0.42 U
o-xylene	95-47-6	440	22000	0.21 J	0.31 J	0.22 J	0.19 J	0.16 J	0.48 J	0.15 J	11 U	0.17 J	0.2 J
styrene	100-42-5	1300	65000	0.12 J	0.12 J	0.11 J	0.16 J	0.068 J	0.089 J	0.15 J	11 U	0.1 J	0.11 J
tetrachloroethene (PCE)	127-18-4	47	2350	0.15 J	34	0.12 J	17	0.68 J	100	0.1 J	20 J	0.12 J	26
toluene	108-88-3	22000	1100000	1.1	2.7	1.4	1.7	1	0.68	0.72	9.4 U	1	19
total xylenes	1330-20-7	440	22000	2.7 J	4.3 J	3 J	2 J	2.1 J	6.1	1.8 J	160 U	2.1 J	2.9 J
trichloroethene (TCE)	79-01-6	3	150	0.34 U	0.22 J	0.34 U	5.4	0.17 J	0.97	0.34 U	13 U	0.34 U	0.52 J
trichlorofluoromethane	75-69-4	3100	155000	2.4 J	35	3.4 J	140	1.8	4.2	2.9	76	3.8	7.9

TABLE 8A
ROUND 1 (OCTOBER 2012) INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
SUPPLEMENTAL GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]	CAS Number	Minimum Indoor Air Criteria[2]	Minimum Soil Gas Criteria[3]	B250-AIR12		B250-SBS12		B250-AIR13		B250-SBS13	
SAMPLE DATE				10/23/12		10/25/12		10/23/12		10/25/12	
MEDIA				indoor air		sub-slab soil gas		indoor air		sub-slab soil gas	
BUILDING/AREA				Avionics				Avionics			
LOCATION				SW section – southern hallway				NW section - Room 109			
VOCs (µg/m³)											
1,1,1-trichloroethane	71-55-6	22000	1100000	0.34	U	**21**		**0.042**	**J**	**5**	
1,1,2-trichlorotrifluoroethane	76-13-1	130000	6500000	**0.46**	**J**	**36**		**0.55**	**J**	**68**	
1,1-dichloroethene	75-35-4	880	44000	0.25	U	0.25	U	0.25	U	0.25	U
1,2,4-trichlorobenzene	120-82-1	8.8	440	0.46	U	0.46	U	0.46	U	0.46	U
1,2-dichlorobenzene	95-50-1	880	44000	0.38	U	0.38	U	0.38	U	0.38	U
1,2-dichloroethane	107-06-2	0.47	23.5	0.25	U	0.25	U	0.25	U	0.25	U
1,3-dichlorobenzene	541-73-1	NC	NC	0.38	U	0.38	U	0.38	U	0.38	U
1,4-dichlorobenzene	106-46-7	1.1	55	0.38	U	0.38	U	0.38	U	**0.078**	**J**
1,4-dioxane	123-91-1	1.6	80	0.22	U	0.22	U	0.22	U	0.22	U
2-butanone (methyl ethyl ketone)	78-93-3	22000	1100000	**0.5**		**3.5**		**0.47**		**3.2**	
2-hexanone (methyl butyl ketone)	591-78-6	130	6500	**0.15**	**J**	**0.57**		**0.19**	**J**	**0.45**	**J**
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	13000	650000	**0.28**	**J**	**1.6**		**0.38**	**J**	**1**	
acetone	67-64-1	140000	7000000	**4.3**		**950**	**J**	**4.7**		**900**	
benzene	71-43-2	1.6	80	**0.23**	**J**	**0.45**		**0.22**	**J**	**0.24**	**J**
bromodichloromethane	75-27-4	0.33	16.5	0.42	U	**2.5**		0.42	U	0.42	U
bromomethane	74-83-9	22	1100	0.24	U	0.24	U	0.24	U	0.24	U
carbon disulfide	75-15-0	3100	155000	**0.084**	**J**	**16**		0.19	U	**11**	
carbon tetrachloride	56-23-5	2	100	**0.33**	**J**	**0.23**	**J**	**0.39**	**J**	**0.3**	**J**
chlorobenzene	108-90-7	220	11000	0.29	U	**0.046**	**J**	0.29	U	0.29	U
chloroform	67-66-3	0.53	26.5	**0.058**	**J**	**31**		**0.063**	**J**	**0.54**	**J**
chloromethane	74-87-3	390	19500	**0.7**		0.13	U	**0.8**		0.13	U
cyclohexane	110-82-7	26000	1300000	0.22	U	0.22	U	0.22	U	0.22	U
dichlorodifluoromethane	75-71-8	440	22000	**1.6**		**2**		**1.9**		**1.8**	
ethylbenzene	100-41-4	4.9	245	**0.2**	**J**	**0.36**	**J**	**0.14**	**J**	**0.28**	**J**
m+p-xylenes	179601-23-1	NC	NC	**1.1**	**J**	**2.4**		**0.95**	**J**	**1.6**	**J**
methyl tert-butyl ether	1634-04-4	47	2350	0.22	U	0.22	U	0.22	U	0.22	U
methylene chloride	75-09-2	1200	60000	**0.3**	**J**	0.22	U	0.38	U	0.22	U
o-xylene	95-47-6	440	22000	**0.17**	**J**	**0.38**	**J**	**0.15**	**J**	**0.26**	**J**
styrene	100-42-5	1300	65000	**0.072**	**J**	**0.89**		0.27	U	**1.3**	
tetrachloroethene (PCE)	127-18-4	47	2350	**0.16**	**J**	**31**		**0.66**	**J**	**10**	
toluene	108-88-3	22000	1100000	**0.98**		**0.83**		**0.72**		**1.2**	
total xylenes	1330-20-7	440	22000	**2.2**	**J**	**4.7**	**J**	**1.8**	**J**	**3.2**	**J**
trichloroethene (TCE)	79-01-6	3	150	0.34	U	**31**		0.34	U	**0.14**	**J**
trichlorofluoromethane	75-69-4	3100	155000	**2**		**5.2**		**1.8**		**7.3**	

Notes:
Only detected VOC compounds are shown.
Detections are **bolded**; exceedances are shaded gray.
Where duplicate samples were collected, only the average concentration is shown.
Total xylenes is the sum of the m+p-, and o-xylene fractions.
1. Sample prefix “NASB” is not shown.
2. See Table 6.
3. See Table 5.
AF/O/PP Airframes, Ordinance and Power Plants
H4 Hangar 4
CAS Chemical Abstracts Service
J estimated result
µg/m3 micrograms per cubic meter
NC no criteria or value
U not detected (with associated detection limit)
VOC volatile organic compound

TABLE 8B
ROUND 2 (MAY 2013) INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
SUPPLEMENTAL GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]				B250-AIR1	B250-SBS1	B250-AIR2	B250-SBS2	B250-AIR3	B250-SBS3	B250-AIR4	B250-SBS4	B250-AIR5	B250-SBS5	B250-AIR6	B250-SBS6
SAMPLE DATE				5/21/2013	5/22/2013	5/21/2013	5/22/2013	5/21/2013	5/22/2013	5/21/2013	5/23/2013	5/21/2013	5/22/2013	5/21/2013 (duplicate)	5/23/2013 (duplicate)
MEDIA				indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas
BUILDING/AREA				H4/Original AIMD		H4/Original AIMD		H4/Original AIMD		H4/Original AIMD		H4/Original AIMD		AF/O/PP	
LOCATION	**CAS Number**	**Minimum Indoor Air Criteria**[2]	**Minimum Soil Gas Criteria**[3]	H4 NW corner		H4 SW corner		H4 - adjacent to east wall, central portion		NE section, east of H4, Room 173		SE section, east of H4 (storage)		Southern central section - Room 155	
VOCs (µg/m^3)															
1,1,1-trichloroethane	71-55-6	22000	1100000	0.34 U	0.34 U	0.34 U	**11**	0.34 U	**0.87**	0.34 U	**1.4**	**0.039** J	**590**	**0.039** J	**34**
1,1,2-trichlorotrifluoroethane	76-13-1	130000	6500000	**0.57** J	**0.61** J	**0.6** J	**15**	**0.66** J	**0.57** J	**0.69** J	**0.7** J	**0.52** J	**28**	**0.565**	**1**
1,1-dichloroethene	75-35-4	880	44000	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**0.079** J	0.25 U	1.375 U
1,2,4-trichlorobenzene	120-82-1	8.8	440	0.46 U	**0.14** J	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	**0.24** J	0.46 U	0.46 U	**0.18** J	**0.12** J
1,2-dichlorobenzene	95-50-1	880	44000	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	2.09 U
1,2-dichloroethane	107-06-2	0.47	23.5	0.25 U	0.25 U	**0.077** J	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1.375 U
1,2-dichloropropane	78-87-5	1.2	60	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	**0.069** J	0.29 U	0.29 U	1.595 U
1,3-dichlorobenzene	541-73-1	NC	NC	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	2.09 U
1,4-dichlorobenzene	106-46-7	1.1	55	0.38 U	**0.084** J	0.38 U	**0.096** J	0.38 U	0.38 U	**0.14** J	**0.13** J	0.38 U	**0.11** J	**0.16** J	2.09 U
1,4-dioxane	123-91-1	1.6	80	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	**0.16** J	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	1.21 U
2-butanone	78-93-3	22000	1100000	**4.1**	**5**	**3.5**	**12**	**2.4**	**5**	**3.2**	**10**	**1.7**	**8**	**2.85**	**3.65**
2-hexanone	591-78-6	130	6500	**0.24** J	**0.61**	0.26 UJ	**3.5**	0.26 U	**1.7** J	0.26 U	**2.4**	0.26 U	**2** J	**0.11** J	1.43 U
4-methyl-2-pentanone	108-10-1	13000	650000	0.26 U	**0.7**	**0.082** J	**6.1**	0.26 U	**5.3**	0.26 U	**1.3**	0.26 U	**1.5**	0.26 U	**0.9**
acetone	67-64-1	140000	7000000	**10**	**73**	**7.8**	**240**	**7.4**	**79**	**9.3**	**67**	**6.2** J	**73**	**7.7**	**82**
benzene	71-43-2	1.6	80	**0.22** J	**0.19** J	**0.22** J	**0.28** J	**0.22** J	**0.31** J	**0.23** J	**0.73**	**0.18** J	**0.38** J	**0.225**	**0.885**
bromodichloromethane	75-27-4	0.33	16.5	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	**0.36** J	0.42 U	**0.36** J	0.42 U	0.42 U	0.42 U	**0.3** J
carbon disulfide	75-15-0	3100	155000	**0.04** J	**1**	0.19 U	**2.4**	**0.14** J	**2**	**0.053** J	**3.1**	**0.1** J	**2.4**	**0.0485**	**1.2**
carbon tetrachloride	56-23-5	2	100	**0.53** J	**0.38** J	**0.52** J	**0.26** J	**0.56** J	**0.36** J	**0.56** J	**0.55** J	**0.48** J	**0.19** J	**0.475**	**0.1** J
chloroform	67-66-3	0.53	26.5	**0.098** J	**0.38** J	**0.093** J	**0.58** J	**0.14** J	**2.5**	**0.14** J	**3**	**0.1** J	**4.2**	**0.119**	**2.35**
chloromethane	74-87-3	390	19500	**1.1** J	0.13 U	**1** J	0.13 U	**1.1**	0.13 UJ	**1.1**	**0.66**	**0.95**	0.13 UJ	**0.95**	0.715 U
dichlorodifluoromethane	75-71-8	440	22000	**2.6**	**2.1**	**2.4**	**3.6**	**2.9**	**2.4**	**2.9**	**2.6**	**2.7**	**5300**	**2.6**	**11.5**
ethylbenzene	100-41-4	4.9	245	**0.17** J	**0.42** J	**0.12** J	**0.32** J	0.27 U	**0.078** J	**0.087** J	**0.42** J	**0.069** J	**0.16** J	**0.091**	**0.13** J
m+p-xylenes	179601-23-1	NC	NC	**1** J	**3.1**	**0.74** J	**2.1** J	1.1 U	**0.42** J	**0.44** J	**3.6**	**0.36** J	**0.76** J	**0.505**	**0.87** J
methyl tert-butyl ether	1634-04-4	47	2350	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	**0.13** J	0.22 U	1.21 U
o-xylene	95-47-6	440	22000	**0.17** J	**0.61**	**0.14** J	**0.65**	0.27 U	**0.13** J	**0.095** J	**0.74**	**0.091** J	**0.19** J	**0.125**	**0.15** J
styrene	100-42-5	1300	65000	**0.15** J	**0.25** J	**0.1** J	**0.17** J	0.27 U	**0.089** J	**0.1** J	**0.29** J	0.27 U	**0.28** J	**0.0765**	1.485 U
tetrachloroethene	127-18-4	47	2350	**0.17** J	**1.6**	**0.58** J	**680**	**0.11** J	**59**	**0.13** J	**85**	**0.15** J	**5900**	**0.48**	**43**
toluene	108-88-3	22000	1100000	**32**	**2**	**8.3**	**1.9**	**3.3**	**0.68**	**2.8**	**3**	**2.6**	**0.68**	**6**	**1.05**
total xylenes	1330-20-7	440	22000	**2.1** J	**6.5**	**1.6** J	**5.1**	4.1 U	**1** J	**0.95** J	**7.6**	**0.83** J	**1.7** J	**1.1**	**1.8** J
trichloroethene	79-01-6	3	150	**1.2**	**0.091** J	**0.31** J	**0.59** J	**0.12** J	**2.9**	**0.17** J	**0.13** J	**0.75**	**4.6**	**0.14**	**0.091** J
trichlorofluoromethane	75-69-4	3100	155000	**7.9**	**6.2**	**6.7**	**2.9**	**9**	**9**	**13**	**17**	**9**	**11**	**5.65**	**110**

SAMPLE ID[1]	CAS Number	Minimum Indoor Air Criteria[2]	Minimum Soil Gas Criteria[3]	B250-AIR7	B250-SBS7	B250-AIR8	B250-SBS8	B250-AIR9	B250-SBS9	B250-AIR10	B250-SBS10	B250-AIR11	B250-SBS11
SAMPLE DATE				5/21/2013	5/22/2013	5/21/2013	5/23/2013	5/21/2013	5/23/2013	5/21/2013	5/23/2013	5/21/2013	5/22/2013
MEDIA				indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas	indoor air	sub-slab soil gas
BUILDING/AREA				AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP		AF/O/PP	
LOCATION				SE section - Room 160		NE section - Room 151		NW section - Room 138		Eastern section - Room 157		SW section - Room 161	
VOCs (μg/m^3)													
1,1,1-trichloroethane	71-55-6	22000	1100000	**0.042** J	**8.7**	0.34 U	**15**	**0.2** J	**48**	0.34 U	**12**	0.34 U	**7.6**
1,1,2-trichlorotrifluoroethane	76-13-1	130000	6500000	**0.58** J	**1.4** J	**0.65** J	3.8 U	**1.1**	**1.8**	**0.7** J	**1.4**	**0.56** J	4.8 U
1,1-dichloroethene	75-35-4	880	44000	0.25 U	2 U	0.25 U	2 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	2.5 U
1,2,4-trichlorobenzene	120-82-1	8.8	440	0.46 U	**2.1** J	0.46 U	3.7 UJ	0.46 U	**0.15** J	0.46 U	0.46 U	0.46 U	**1.5** J
1,2-dichlorobenzene	95-50-1	880	44000	0.38 U	3 U	0.38 U	3 UJ	**0.15** J	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U
1,2-dichloroethane	107-06-2	0.47	23.5	0.25 U	2 U	0.25 U	2 U	**0.15** J	0.25 U	**0.085** J	0.25 U	0.25 U	2.5 U
1,2-dichloropropane	78-87-5	1.2	60	0.29 U	2.3 U	0.29 U	2.3 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	2.9 U
1,3-dichlorobenzene	541-73-1	NC	NC	0.38 U	3 U	0.38 U	3 UJ	**0.13** J	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U
1,4-dichlorobenzene	106-46-7	1.1	55	0.38 U	**0.53** J	**0.16** J	3 UJ	**0.29** J	0.38 U	**0.13** J	**0.084** J	0.38 U	3.8 U
1,4-dioxane	123-91-1	1.6	80	0.22 U	1.8 U	0.22 U	1.8 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	2.2 U
2-butanone	78-93-3	22000	1100000	**1.6**	**2.4** J	**2.6**	**2.5** J	**3.5**	**5.6**	**2**	**51**	**1.8**	**5.6**
2-hexanone	591-78-6	130	6500	**0.14** J	2 U	0.26 U	2 UJ	0.26 U	**1.3**	0.26 U	**72**	**0.078** J	**1.3** J
4-methyl-2-pentanone	108-10-1	13000	650000	0.26 U	2 U	0.26 U	**0.7** J	0.26 U	**14**	0.26 U	**190**	0.26 U	**7.4**
acetone	67-64-1	140000	7000000	**5.7**	**18**	**7.8**	**33**	**11**	**37** J	**6.2**	**140**	**6.4**	**65**
benzene	71-43-2	1.6	80	**0.19** J	**1.3** J	**0.22** J	1.6 U	**0.38** J	**0.38** J	**0.2** J	**1.3**	**0.21** J	**0.54** J
bromodichloromethane	75-27-4	0.33	16.5	0.42 U	3.3 U	0.42 U	3.3 U	0.42 U	**0.094** J	0.42 U	0.42 U	0.42 U	4.2 U
carbon disulfide	75-15-0	3100	155000	**0.04** J	**1.3** J	**0.059** J	**4**	**0.084** J	**5.9**	**0.047** J	**0.93**	**0.047** J	**7.2**
carbon tetrachloride	56-23-5	2	100	**0.59** J	3.1 U	**0.56** J	3.1 U	**1**	**0.45** J	**0.58** J	**0.12** J	**0.52** J	3.9 U
chloroform	67-66-3	0.53	26.5	**0.093** J	**1.9** J	**0.13** J	**2.4** J	**0.21** J	**1.2**	**0.12** J	**2.8**	**0.098** J	**1.8** J
chloromethane	74-87-3	390	19500	**1.1** J	1 U	**1.1**	1 U	**1.8**	0.13 U	**1.1**	0.13 U	**1.1** J	1.3 U
dichlorodifluoromethane	75-71-8	440	22000	**2.8**	**100**	**2.9**	**4.3** J	**4.6**	**73** J	**3**	**9.4**	**2.8**	**9.4**
ethylbenzene	100-41-4	4.9	245	**0.095** J	2.2 U	**0.069** J	2.2 UJ	**0.25** J	**0.18** J	**0.069** J	**0.61**	**0.11** J	2.7 U
m+p-xylenes	179601-23-1	NC	NC	**0.61** J	8.7 U	**0.36** J	8.7 UJ	**1** J	**0.87** J	**0.41** J	**3.1**	**0.61** J	11 U
methyl tert-butyl ether	1634-04-4	47	2350	0.22 U	1.8 U	0.22 U	1.8 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	2.2 U
o-xylene	95-47-6	440	22000	**0.15** J	2.2 U	**0.082** J	2.2 UJ	**0.29** J	**0.24** J	**0.1** J	**0.69**	**0.16** J	2.7 U
styrene	100-42-5	1300	65000	**0.077** J	2.1 U	**0.068** J	2.1 UJ	**0.6**	**0.2** J	0.27 U	**0.6**	**0.094** J	2.7 U
tetrachloroethene	127-18-4	47	2350	**0.14** J	**60**	0.42 U	**28** J	**1.1**	**320**	**0.38** J	**41**	**0.2** J	**52**
toluene	108-88-3	22000	1100000	**9**	**3.8** J	**22**	**1.1** J	**1.4**	**1.2**	**0.83**	**3.2**	**0.79**	**0.9** J
total xylenes	1330-20-7	440	22000	**1.3** J	32 U	**0.79** J	32 UJ	**2.3** J	**2** J	**0.92** J	**6.8**	**1.4** J	41 U
trichloroethene	79-01-6	3	150	**12**	2.7 U	**0.13** J	**5.4** J	**1.1**	**2.1**	0.34 U	**0.64** J	**0.51** J	**1.6** J
trichlorofluoromethane	75-69-4	3100	155000	**7.3**	**19**	**4.1**	**140**	**8.4**	**11**	**5.6**	**68**	**7.3**	**6.2** J

TABLE 8B
ROUND 2 (MAY 2013) INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
SUPPLEMENTAL GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[1]				B250-AIR12		B250-SBS12		B250-AIR13		B250-SBS13	
SAMPLE DATE				5/21/2013		5/22/2013		5/21/2013		5/23/2013	
MEDIA				indoor air		sub-slab soil gas		indoor air		sub-slab soil gas	
BUILDING/AREA				Avionics				Avionics			
LOCATION	**CAS Number**	**Minimum Indoor Air Criteria**[2]	**Minimum Soil Gas Criteria**[3]	SW section – southern hallway				NW section - Room 109			
VOCs (μg/m³)											
1,1,1-trichloroethane	71-55-6	22000	1100000	0.34	U	**15**	**J**	0.34	U	**2.8**	
1,1,2-trichlorotrifluoroethane	76-13-1	130000	6500000	**0.6**	**J**	**29**	**J**	**0.66**	**J**	**30**	
1,1-dichloroethene	75-35-4	880	44000	0.25	U	9.9	U	0.25	U	0.25	U
1,2,4-trichlorobenzene	120-82-1	8.8	440	**0.12**	**J**	18	UJ	0.46	U	**0.13**	**J**
1,2-dichlorobenzene	95-50-1	880	44000	0.38	U	15	UJ	0.38	U	0.38	U
1,2-dichloroethane	107-06-2	0.47	23.5	**0.073**	**J**	10	U	0.25	U	0.25	U
1,2-dichloropropane	78-87-5	1.2	60	**0.069**	**J**	12	U	0.29	U	0.29	U
1,3-dichlorobenzene	541-73-1	NC	NC	0.38	U	15	UJ	0.38	U	0.38	U
1,4-dichlorobenzene	106-46-7	1.1	55	**0.11**	**J**	15	UJ	**0.11**	**J**	0.38	U
1,4-dioxane	123-91-1	1.6	80	0.22	U	9	U	0.22	U	0.22	U
2-butanone	78-93-3	22000	1100000	**1.8**		7.4	U	**1.9**		**3.5**	
2-hexanone	591-78-6	130	6500	0.26	U	10	UJ	0.26	U	**0.49**	**J**
4-methyl-2-pentanone	108-10-1	13000	650000	0.26	U	**11**	**J**	0.26	U	**0.78**	
acetone	67-64-1	140000	7000000	**5.9**	**J**	**380**		**6.9**		**270**	
benzene	71-43-2	1.6	80	**0.18**	**J**	8	U	**0.22**	**J**	**0.64**	
bromodichloromethane	75-27-4	0.33	16.5	0.42	U	17	U	0.42	U	**0.2**	**J**
carbon disulfide	75-15-0	3100	155000	**0.11**	**J**	**5**	**J**	**0.11**	**J**	**9.3**	
carbon tetrachloride	56-23-5	2	100	**0.5**	**J**	16	U	**0.56**	**J**	**0.46**	**J**
chloroform	67-66-3	0.53	26.5	**0.12**	**J**	**7.8**	**J**	**0.13**	**J**	**1.6**	
chloromethane	74-87-3	390	19500	**0.97**		5.2	U	**1.1**		0.13	U
dichlorodifluoromethane	75-71-8	440	22000	**2.4**		**3.7**	**J**	**2.8**		**2.7**	
ethylbenzene	100-41-4	4.9	245	**0.11**	**J**	11	UJ	**0.12**	**J**	**0.43**	**J**
m+p-xylenes	179601-23-1	NC	NC	**0.45**	**J**	43	UJ	**0.49**	**J**	**2.4**	
methyl tert-butyl ether	1634-04-4	47	2350	0.22	U	9	U	0.22	U	0.22	U
o-xylene	95-47-6	440	22000	**0.1**	**J**	11	UJ	**0.12**	**J**	**0.52**	**J**
styrene	100-42-5	1300	65000	**0.064**	**J**	11	UJ	**0.11**	**J**	**1.2**	
tetrachloroethene	127-18-4	47	2350	0.42	U	**53**	**J**	0.42	U	**10**	
toluene	108-88-3	22000	1100000	**0.53**		9.4	U	**0.98**		**1.6**	
total xylenes	1330-20-7	440	22000	**0.99**	**J**	160	UJ	**1.1**	**J**	**5.2**	
trichloroethene	79-01-6	3	150	**8**		**22**	**J**	0.34	U	**0.35**	**J**
trichlorofluoromethane	75-69-4	3100	155000	**5**		**4.5**	**J**	**6.2**		**7.3**	

Notes:
Only detected VOC compounds are shown.
Detections are **bolded**; exceedances are shaded gray.
Where duplicate samples were collected, only the average concentration is shown.
Total xylenes is the sum of the m+p-, and o-xylene fractions.
1. Sample prefix “NASB” is not shown.
2. See Table 6.
3. See Table 5.
AF/O/PP Airframes, Ordinance and Power Plants
H4 Hangar 4
CAS Chemical Abstracts Service
J estimated result
μg/m3 micrograms per cubic meter
NC no criteria or value
U not detected (with associated detection limit)
VOC volatile organic compound

TABLE 9
SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN - SUB-SLAB SOIL GAS
VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

VOC Contaminant	EPA RSL Air (Residential) (1)		EPA RSL Air (Industrial) (1)					
$\mu g/m^3$	Carcinogenic	Noncarcinogenic	Carcinogenic	Noncarcinogenic	COPC Indoor Air Screening Level (2)		COPC Sub-Slab Screening Level (3)	Maximum Detected Sub-Slab SG Concentration
1,1,1-Trichloroethane		5200		22000	520	N	5200	590
1,1,2-Trichlorotrifluoroethane		31000		130000	3100	N	31000	68
1,1-Dichloroethene		210		880	21	N	210	0.095
1,2,4-Trichlorobenzene		2.1		8.8	0.21	N	2.1	2.1
1,2-Dichlorobenzene		210		880	21	N	210	0.11
1,4-Dichlorobenzene	0.22	830	1.1	3500	0.22	C	2.2	0.53
1,4-Dioxane	0.32	110	1.6	480	0.32	C	3.2	1.3
2-Butanone (methyl ethyl ketone)		5200		22000	520	N	5200	160
2-Hexanone (methyl butyl ketone)		31		130	3.1	N	31	100
4-Methyl-2-pentanone (methylisobutyl ketone)		3100		13000	310	N	3100	340
Acetone		32000		140000	3200	N	32000	1000
Benzene	0.31	31	1.6	130	0.31	C	3.1	**4.2**
Bromodichloromethane	0.066		0.33		0.066	C	0.66	**2.5**
Bromomethane		5.2		22	0.52	N	5.2	0.34
Carbon disulfide		730		3100	73	N	730	16
Carbon tetratchloride	0.41	100	2	440	0.41	C	4.1	0.55
Chlorobenzene		52		220	5.2	N	52	0.046
Chloroform	0.11	100	0.53	430	0.11	C	1.1	**31**
Chloromethane		94		390	9.4	N	94	2.9
Cyclohexane		1000		4400	100	N	1000	0.38
Dichlorodifluoromethane		100		440	10	N	100	**5300**
Ethylbenzene	0.97	1000	4.9	4400	0.97	C	9.7	0.87
m,p-Xylenes		100		440	10	N	100	12
Methyl-t-butyl ether	9.4	3100	47	13000	9.4	C	94	0.45
Methylene chloride	96	630	1200	2600	63	N	630	5.2
o-Xylene		100		440	10	N	100	3.4
Styrene		1000		4400	100	N	1000	1.3
Tetrachloroethene (PCE)	9.4	42	47	180	4.2	N	42	**6600**
Toluene		5200		22000	520	N	5200	10
Total Xylenes		100		440	10	N	100	29
Trichloroethene (TCE)	0.43	2.1	3	8.8	0.21	N	2.1	**31**
Trichlofluoromethane		730		3100	73	N	730	140

Bolded samples indicate exceedance of the screening level and identification as a contaminant of potential concern (COPC).
Blank cells indicates that no information is available.
N - Noncarcinogenic
C - Carcinogenic
(1) EPA Regional Screening Levels (May, 2013)
(2) Lesser of Carcinogenic Residential RSL and 0.1 x Noncarcinogenic Residential RSL
(3) Ten times the COPC Sub-Slab Screening Level (accounts for an attenuation factor of 0.1)

TABLE 10
SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN - INDOOR AIR
VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

VOC Contaminant	EPA RSL Air (Residential) (1)		EPA RSL Air (Industrial) (1)		COPC Indoor Air Screening Level (2)		Maximum Detected Indoor Air Concentration	Statewide Outside Ambient Average (3)	Sampled Ambient Air	
$\mu g/m^3$	Carcinogenic	Noncarcinogenic	Carcinogenic	Noncarcinogenic					Round 1	Round 2
1,1,1-Trichloroethane		5200		22000	520	N	0.2			
1,1,2-Trichlorotrifluoroethane		31000		130000	3100	N	0.7	NA	0.48	0.55
1,1-Dichloroethene		210		880	21	N	ND			
1,2,4-Trichlorobenzene		2.1		8.8	0.21	N	0.47			
1,2-Dichlorobenzene		210		880	21	N	0.15			
1,2-Dichloroethane*	0.094	7.3	0.47	31	0.094	C	0.085			
1,2-Dichloropropane*	0.24	4.2	1.2	18	0.24	C	0.069			
1,3-Dichlorobenzene*							0.13			
1,4-Dichlorobenzene	0.22	830	1.1	3500	0.22	C	**0.29**	0.03	0.75 U	0.09
1,4-Dioxane	0.32	110	1.6	480	0.32	C	ND			
2-Butanone (methyl ethyl ketone)		5200		22000	520	N	4.1	2.26	1.4	1.1
2-Hexanone (methyl butyl ketone)		31		130	3.1	N	0.31		0.35	0.26 U
4-Methyl-2-pentanone (methylisobutyl ketone)		3100		13000	310	N	1	0.37		
Acetone		32000		140000	3200	N	11	NA	15	4
Benzene (SG)	0.31	31	1.6	130	0.31	C	0.3		0.24	0.15
Bromodichloromethane (SG)	0.066		0.33		0.066	C	ND	0.83		
Bromomethane		5.2		22	0.52	N	ND			
Carbon disulfide		730		3100	73	N	0.47	0.18	0.47	0.11
Carbon tetratchloride	0.41	100	2	440	0.41	C	**0.59**	0.57	0.43	0.45
Chlorobenzene		52		220	5.2	N	ND			
Chloroform (SG)	0.11	100	0.53	430	0.11	C	**0.21**	0.09	0.61 U	0.083
Chloromethane		94		390	9.4	N	1.8	0.37	0.89	0.97
Cyclohexane		1000		4400	100	N	ND			
Dichlorodifluoromethane (SG)		100		440	10	N	4.6	2.85	1.9	2.3
Ethylbenzene	0.97	1000	4.9	4400	0.97	C	0.25			
m,p-Xylenes		100		440	10	N	1.6	NA	0.7	1.1 U
Methyl-t-butyl ether	9.4	3100	47	13000	9.4	C	ND			
Methylene chloride	96	630	1200	2600	63	N	0.38			
o-Xylene		100		440	10	N	0.29	NA	0.11	0.27 U
Styrene		1000		4400	100	N	0.6			
Tetrachloroethene (PCE) (SG)	9.4	42	47	180	4.2	N	1.2	0.11	0.23	8.8
Toluene		5200		22000	520	N	32	2.81	0.6	0.35
Total Xylenes		100		440	10	N	3.1	1.16	1.4	4.1 U
Trichloroethene (TCE) (SG)	0.43	2.1	3	8.8	0.21	N	**12**	0.03	0.67 U	0.91
Trichlofluoromethane		730		3100	73	N	13	NA	1.1	1.1

* Not detected in sub-slab soil gas samples.
NA - Not available
ND - Not detected in indoor air samples, but detected in sub-slab soil gas samples.
SG - Identified as an indoor air COPC based on the sub-slab soil gas COPC concentration.
(1) EPA Regional Screening Levels (May, 2013)
(2) Lesser of Carcinogenic Residential RSL and 0.1 x Noncarcinogenic Residential RSL
(3) MEDEP Table B9 DQO Considerations and Results Evaluation: Comparing Residential Chronic IATs to Typical Indoor Levels, Outside Ambient, End Point of Remediation and MRLs, January 14, 2010.

TABLE 11
INDOOR AIR RISKS - SAMPLED CONCENTRATIONS
VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

INDOOR AIR COPC (1)	Indoor Air COPC? (1)	Soil Gas COPC? (2)	Groundwater COPC? (3)	Maximum Detected Indoor Air Concentration (µg/m^3)	EPA RSL Air (Industrial) (µg/m3) (4)		Industrial Indoor Air Risks	
					Carcinogenic	Noncarcinogenic	ILCR (5)	HQ (6)
Benzene	No	Yes	No	0.38	1.6	130	2.4E-07	2.9E-03
Bromodichloromethane	No	Yes	No	Not Detected	0.33	NA		
Chloroform	Yes	Yes	No	0.21	0.53	430	4.0E-07	4.9E-04
Carbon Tetrachloride	Yes	No	No	0.59	2	440	3.0E-07	1.3E-03
1,4-Dichlorobenzene	Yes	No	No	0.29	1.1	3500	2.6E-07	8.3E-05
Dichlorodifluoromethane	No	Yes	No	4.6	NA	440		1.0E-02
Tetrachloroethene (GW)	No	Yes	Yes	1.2	47	180	2.6E-08	6.7E-03
Trichloroethene	Yes	Yes	Yes	12	3	8.8	4.0E-06	1.4E+00

TOTAL (ALL) (7)	5.2E-06
TOTAL (GW) (8)	4.0E-06
TOTAL (TCE) (9)	4.0E-06

NA -Not Available
COPC - Contaminant of Potential Concern
RSL - Regional Screening Level
AF - Attenuation Factor
ILCR - Incremental Lifetime Cancer Risk
HQ - Hazard Quotient
HI -Hazard Index
(GW) - Retained as an Indoor Air COPC because it was detected in groundwater and TCE is one of its biodegradation byproducts.
(1) Identified as an Indoor Air COPC (Table 10)
(2) Identified as a Soil Gas COPC (Table 9)
(3) Identified as a Groundwater COPC (Table 4)
(4) EPA Regional Screening Levels (May, 2013)
(5) ILCR = Predicted Indoor Air Concentration * 10-6 / Industrial Carcinogenic RSL
(6) HQ= Predicted Indoor Air Concentration / Industrial Noncarcinogenic RSL
(7) Sum of all ILCRs
(8) Sum of ILCRs of Groundwater COPCs (Tetrachloroethene and Trichloroethene)
(9) ILCR for Trichloroethene (because it is a COPC in groundwater, soil gas, and indoor air).

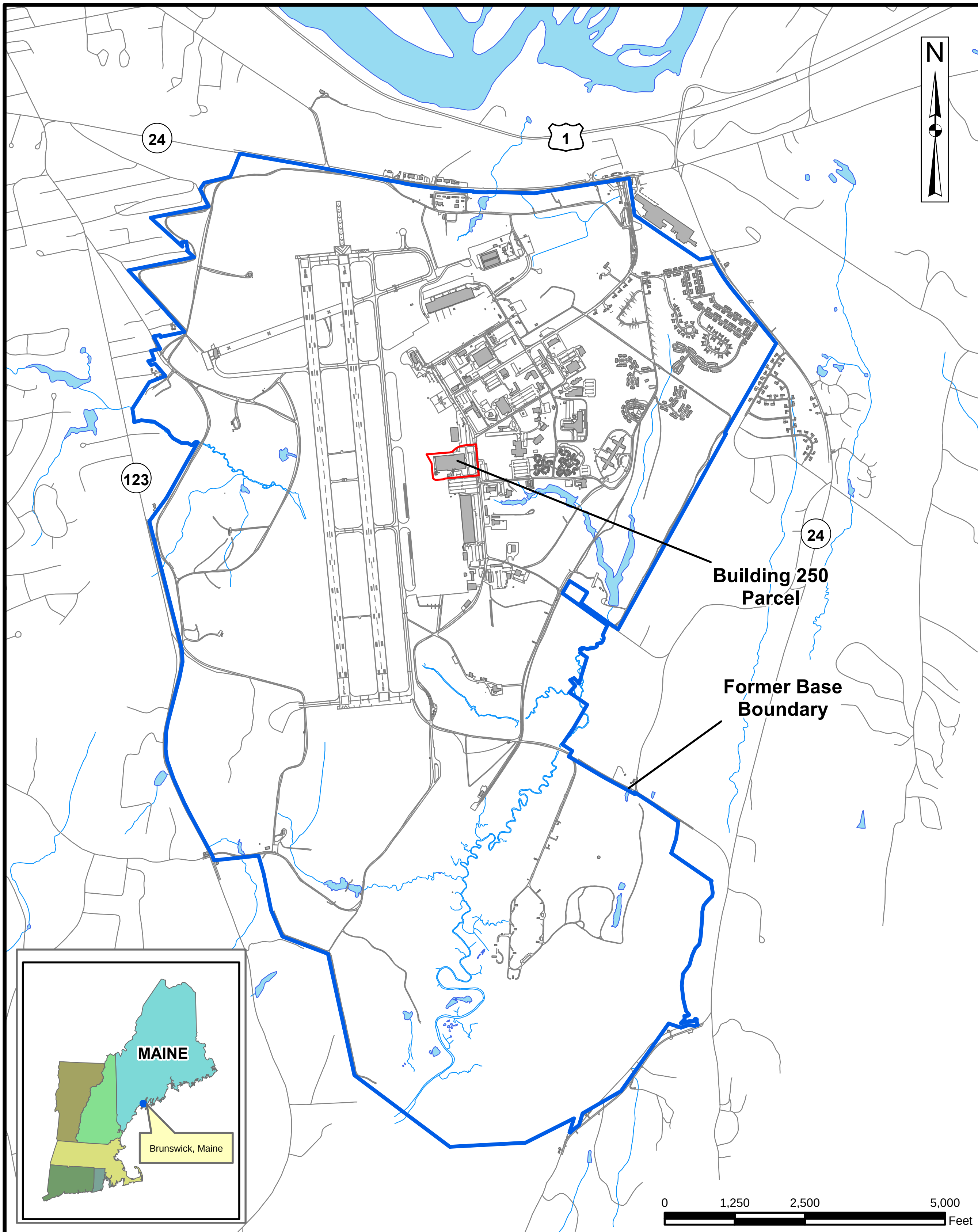
TABLE 12
FLOOR DRAIN VAPOR SAMPLE RESULTS AND COMPARISON TO ADJOINING INDOOR AIR AND SOIL GAS SAMPLE RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID[(1)]		B250-AIR15	B250-AIR15 (duplicate)	B250-AIR6	B250-SBS6	B250-SBS6 (duplicate)
SAMPLE DATE		10/23/12	10/23/12	10/23/12	10/25/12	10/25/12
MEDIA		floor drain vapor	floor drain vapor	indoor air	soil gas	soil gas
AREA		AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP
LOCATION	**CAS Number**	southern central section - Room 155 (approx. 20 feet SE of AIR6/SBS6)	southern central section - Room 155 (approx. 20 feet SE of AIR6/SBS6)	southern central section - Room 155	southern central section - Room 155	southern central section - Room 155
VOLATILE ORGANICS (µg/m^3)						
1,1,1-trichloroethane	71-55-6	0.34 U	0.34 U	0.34 U	**29**	**29**
1,1,2-trichlorotrifluoroethane	76-13-1	**0.47 J**	**0.45 J**	**0.46 J**	**0.74 J**	**0.72 J**
1,2,4-trichlorobenzene	120-82-1	0.46 U	0.46 U	0.46 U	**0.33 J**	0.46 U
1,2-dichloroethane	107-06-2	**0.052 J**	0.25 U	0.25 U	0.25 U	0.25 U
1,3-dichlorobenzene	541-73-1	**0.1 J**	0.38 U	0.38 U	0.38 U	0.38 U
1,4-dichlorobenzene	106-46-7	**0.6 J**	**0.53 J**	0.38 U	0.38 U	0.38 U
1,4-dioxane	123-91-1	0.22 U	0.22 U	0.22 U	**0.097 J**	0.22 U
2-butanone (methyl ethyl ketone)	78-93-3	**4.7**	**4.7**	**0.71**	**8.2**	**8.5**
2-hexanone (methyl butyl ketone)	591-78-6	**0.98**	**0.94**	**0.15 J**	**1.1**	**1.1**
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	**0.94**	**0.82**	**0.27 J**	**3.6**	**3.7**
acetone	67-64-1	**12**	**11**	**5**	**230**	**230**
benzene	71-43-2	**0.35 J**	**0.3 J**	**0.23 J**	**4.2**	**4.2**
carbon disulfide	75-15-0	**0.37 J**	**0.23 J**	**0.096 J**	**1.6**	**2.1**
carbon tetrachloride	56-23-5	**0.4 J**	**0.39 J**	**0.39 J**	**0.15 J**	**0.16 J**
chloroform	67-66-3	**0.073 J**	**0.068 J**	**0.068 J**	**0.54 J**	**0.54 J**
chloromethane	74-87-3	**0.8**	**0.76**	**0.74**	**1.4**	**1.5**
cyclohexane	110-82-7	**0.16 J**	0.22 U	0.22 U	0.22 U	0.22 U
dichlorodifluoromethane	75-71-8	**2**	**1.9**	**2**	**9.4**	**9.9**
ethylbenzene	100-41-4	**1.2**	**1.1**	**0.14 J**	**0.24 J**	**0.22 J**
m+p-xylenes	108-38-3; 106-42-3	**9.5**	**9.5**	**1 J**	**1.7 J**	**1.7 J**
methyl tert-butyl ether	1634-04-4	0.22 U	0.22 U	0.22 U	**0.79**	0.22 U
methylene chloride	75-09-2	**0.33 J**	0.49 U	0.28 U	0.42 U	0.38 U
o-xylene	95-47-6	**4.3**	**4.3**	**0.16 J**	**0.24 J**	**0.24 J**
styrene	100-42-5	**0.28 J**	**0.24 J**	**0.077 J**	**0.085 J**	**0.081 J**
tetrachloroethene (PCE)	127-18-4	**36 J**	0.42 UJ	**0.12 J**	**24**	**25**
toluene	108-88-3	**1.8**	**1.6**	**1**	**4.5**	**4.5**
total xylenes	1330-20-7	**27**	**27**	**2.1 J**	**3.2 J**	**3.4 J**
trichloroethene (TCE)	79-01-6	**0.091 J**	0.34 U	0.34 U	**0.097 J**	0.34 U
trichlorofluoromethane	75-69-4	**2.5**	**2.3 J**	**2.8 J**	**130**	**130**

Notes:
Only detected VOC compounds are shown.
Total xylenes is the sum of the p,m- and o-xylene fractions.
1. Sample prefix "NASB" is not shown.

AF/O/PP	Airframes, Ordinance and Power Plants
CAS	Chemical Abstracts Service
J	estimated result
µg/m3	micrograms per cubic meter
--	no criteria or value
U	not detected (with associated detection limit)

I:\00645\6060\NASB_B250-4_SITELOC.MXD NEC/DWM 01/18/13



FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

BUILDING 250 PARCEL LOCATION MAP

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

SCALE	AS NOTED
FILE	I:\..\NASB_B250-4_SITELOC.MXD
REV 0	DATE 01/18/13
FIGURE NUMBER	1

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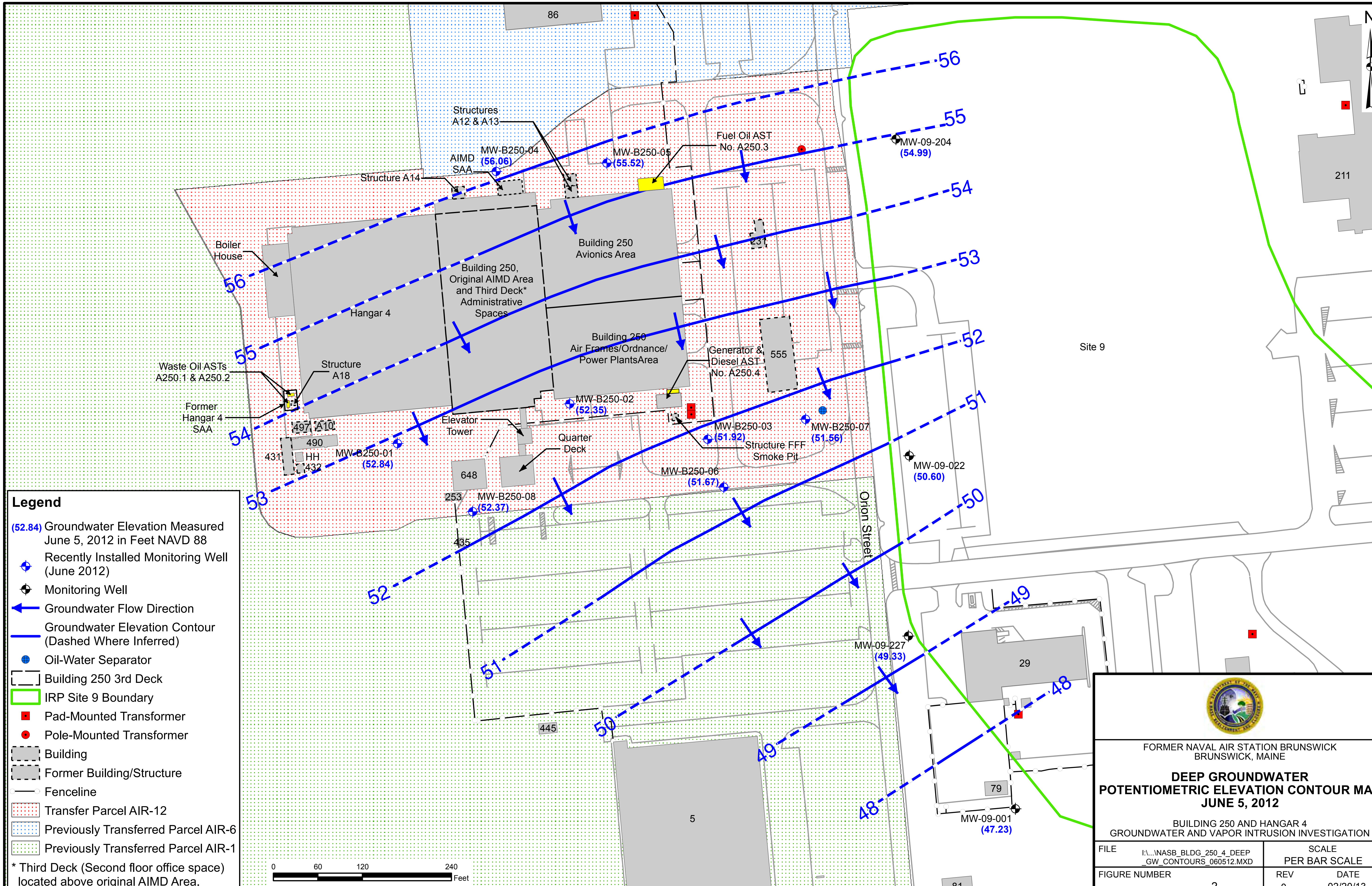

FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

DEEP GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP JUNE 5, 2012

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FILE I:\...\NASB_BLDG_250_4_DEEP _GW_CONTOURS_060512.MXD		SCALE PER BAR SCALE
FIGURE NUMBER 2	REV 0	DATE 02/20/13

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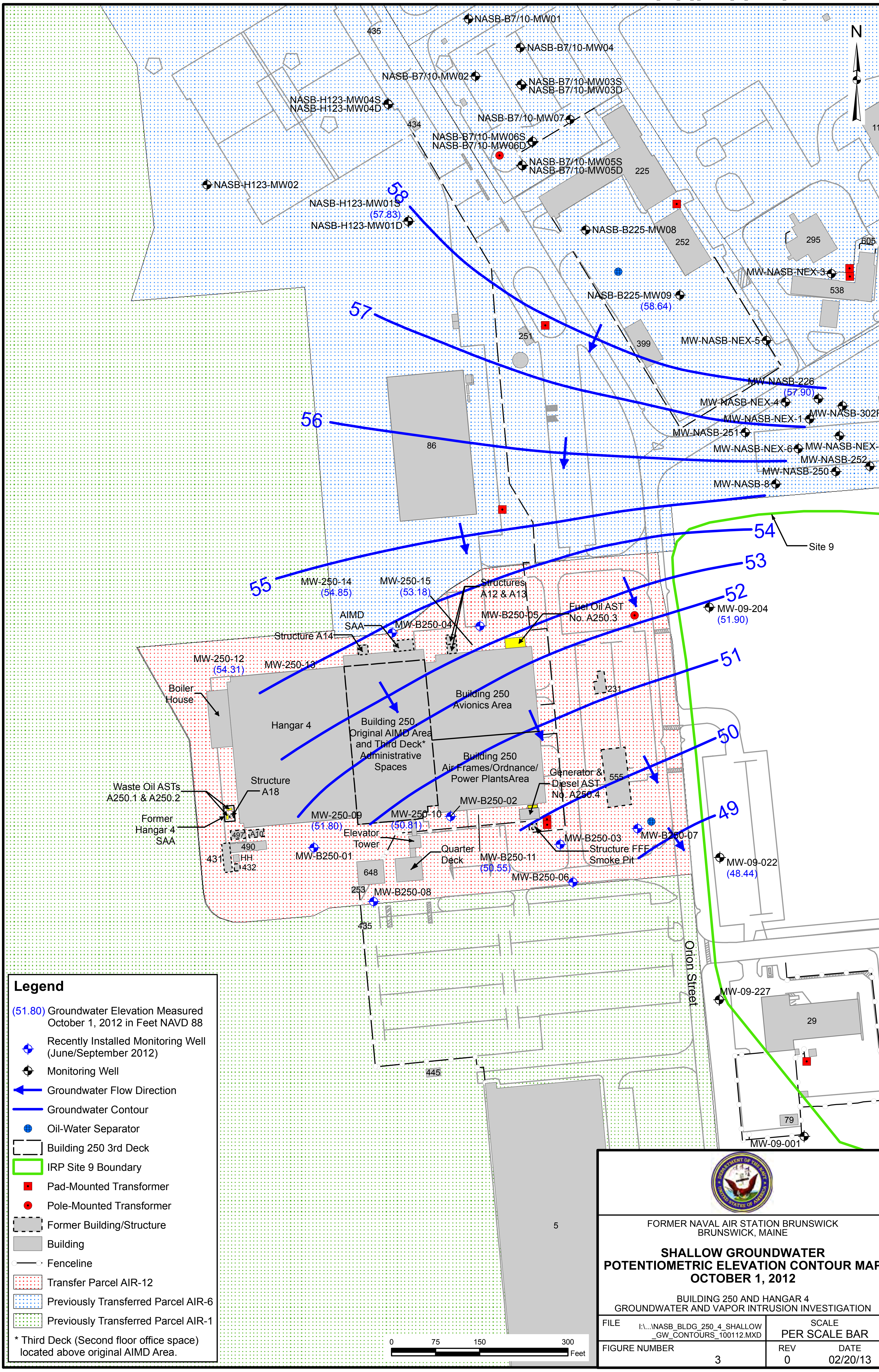


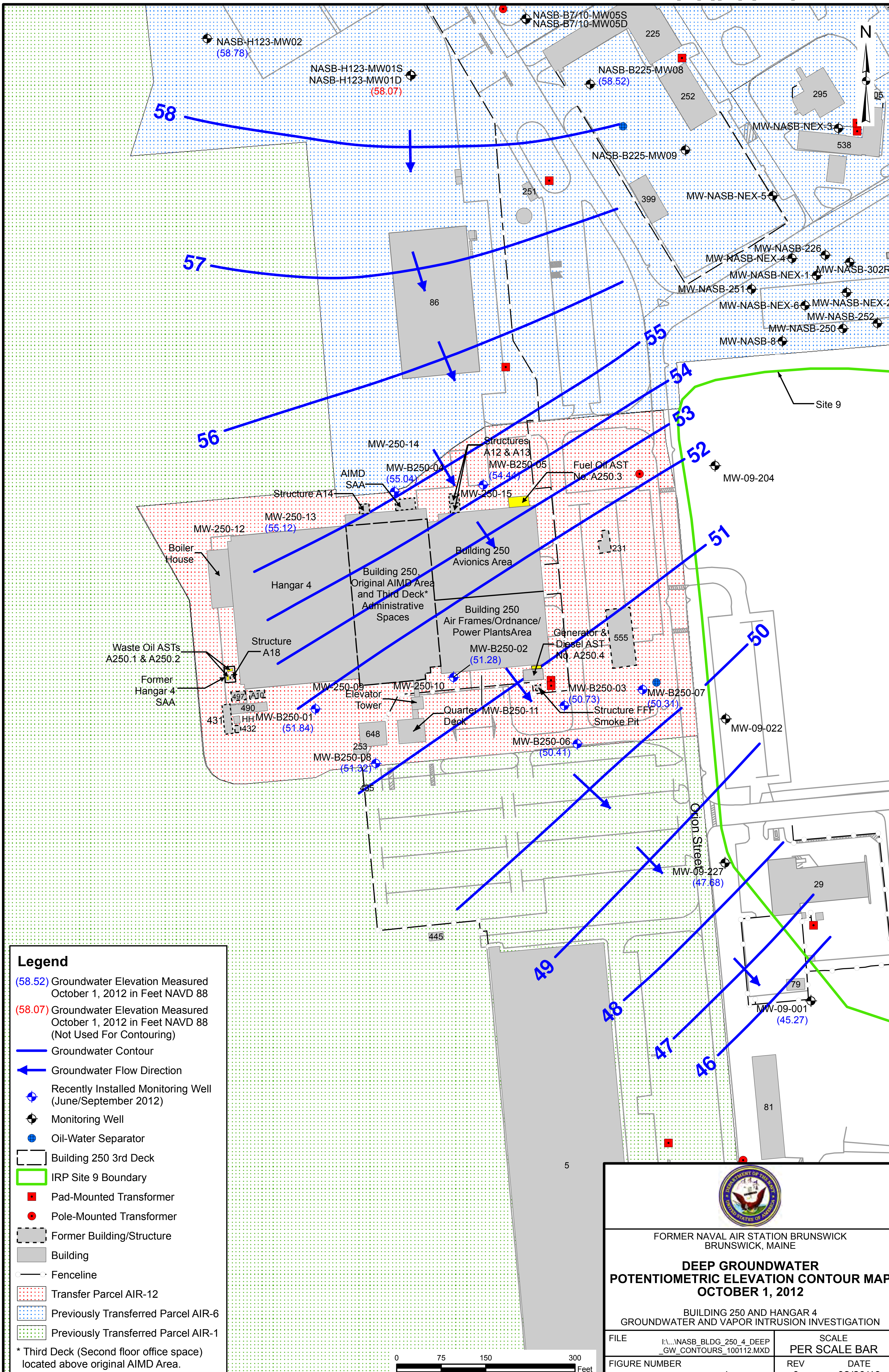
FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

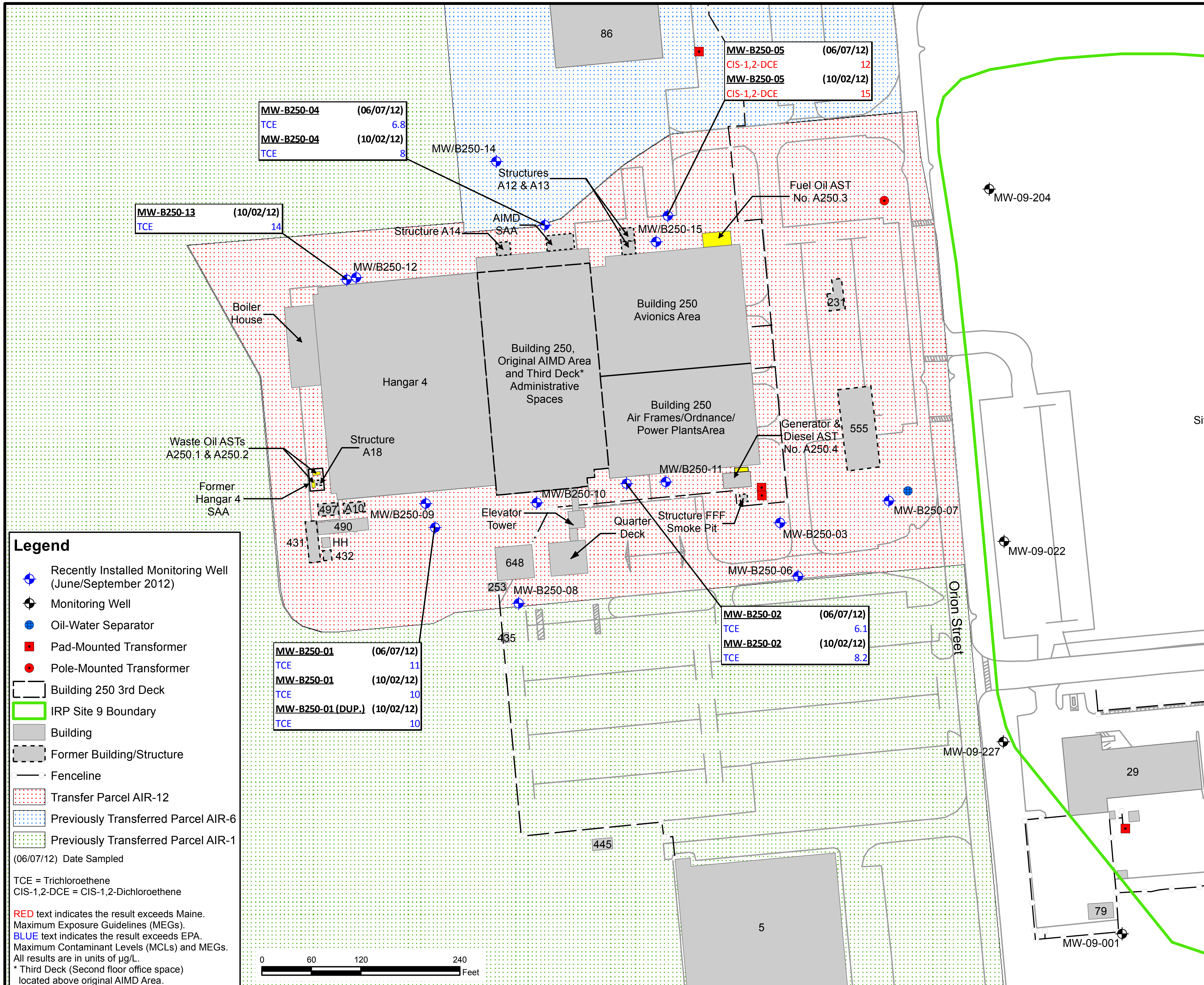
SHALLOW GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP OCTOBER 1, 2012

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FILE	I:\...\NASB_BLDG_250_4_SHALLOW_GW_CONTOURS_100112.MXD	SCALE	PER SCALE BAR
FIGURE NUMBER	3	REV 0	DATE 02/20/13

I:\00645\6060\NASB_BLDG_250_4_DEEP_GW_CONTOURS_100112.MXD NEC/DWM 02/20/13





FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

GROUNDWATER VOLATILE ORGANIC COMPOUND EXCEEDANCES TAG MAP

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FILE	SCALE
I:\...\NASB_BLDG_250_4_GW_EXCEED.MXD	PER SCALE BAR

FIGURE NUMBER	REV	DATE
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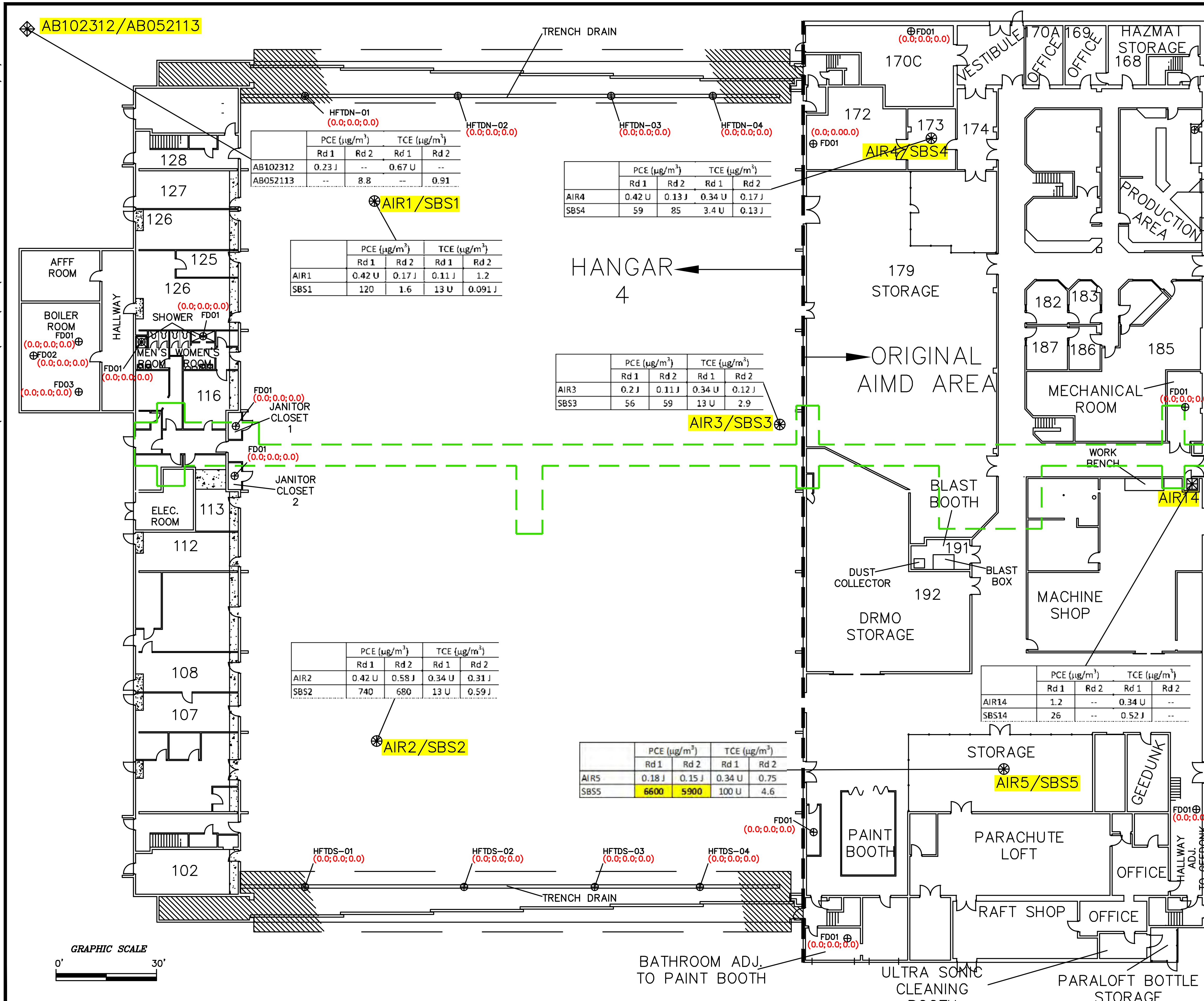


	PCE (μg/m³)		TCE (μg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AB102312	0.23 J	--	0.67 U	--
AB052113	--	8.8	--	0.91

	PCE (μg/m³)		TCE (μg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR4	0.42 U	0.13 J	0.34 U	0.17 J
SBS4	59	85	3.4 U	0.13 J

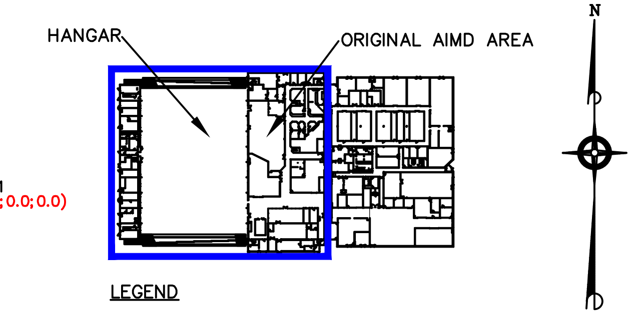
	PCE (μg/m³)		TCE (μg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR1	0.42 U	0.17 J	0.11 J	1.2
SBS1	120	1.6	13 U	0.091 J

	PCE (μg/m³)		TCE (μg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR3	0.2 J	0.11 J	0.34 U	0.12 J
SBS3	56	59	13 U	2.9

	PCE (μg/m³)		TCE (μg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR2	0.42 U	0.58 J	0.34 U	0.31 J
SBS2	740	680	13 U	0.59 J

	PCE (μg/m³)		TCE (μg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR5	0.18 J	0.15 J	0.34 U	0.75
SBS5	6600	5900	100 U	4.6

	PCE (μg/m³)		TCE (μg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR14	1.2	--	0.34 U	--
SBS14	26	--	0.52 J	--



LEGEND

- FD01 ⊕ FLOOR DRAIN
- (0.4;0.2;0.0) PID RESULT (ppm) (September 2012;October 2012;May 2013)
- AIR1/SBS1 ⊛ INDOOR AIR SAMPLE/SUBSLAB SAMPLE LOCATION
- AIR14 ⊠ FLOOR DRAIN VAPOR SAMPLE LOCATION
- AB102312 ◈ OUTDOOR AMBIENT AIR SAMPLE LOCATION
- — — UTILITY TUNNEL

	PCE (ug/m³)		TCE (ug/m³)		
	Rd1	Rd2	Rd1	Rd2	
AIR7	0.15 J	0.14 J	0.34 U	**12**	indoor or outdoor air sample results
SBS7	34	60	0.22 J	2.7 U	sub-slab soil gas results

Exceedance of criteria indicated by bold number and yellow shading

Comparison criteria:

Volatile Organic Compound	Indoor Air Minimum IAT/RSL Criteria Value[1,2] (ug/m³)	Soil Gas Target[3] (μg/m³)
tetrachloroethene (PCE)	47	2,350
trichloroethene (TCE)	3	150
chloroform	0.53	26.5

1. Maine RAGs for Sites Contaminated with Hazardous Substances, Table 2 May 2013.
2. EPA Regional Screening Levels (May 2013)
3. Soil Gas Targets (SGTs) calculated by dividing minimum criteria value by MEDEP-adopted attenuation factor of 0.02 (MEDEP, 2010).

Notes:
AB102312 and AB052113 are outside ambient air samples.
Floor drain screening conducted September 18 and19, 2012 October 22, 2012 and May 3, 2013.
Indoor air samples and outdoor ambient air sample collected October 23, 2012 and May 21, 2013, (Round 1 and Round 2 respectively).
Sub-slab soil gas sample collected October 24 and 25, 2012, and again on May 22 and 23, 2013, (Round 1 and Round 2 respectively).

Abbreviations:
PCE tetrachloroethene
TCE trichloroethene
μg/m³ microgram per cubic meter
J estimated result
U not detected (with associated detection limit)
PID photoionization detector
ppm parts per million
Rd1 Round 1
Rd2 Round 2

FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE LOCATIONS - HANGAR 4 AND ORIGINAL AIMD AREA

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

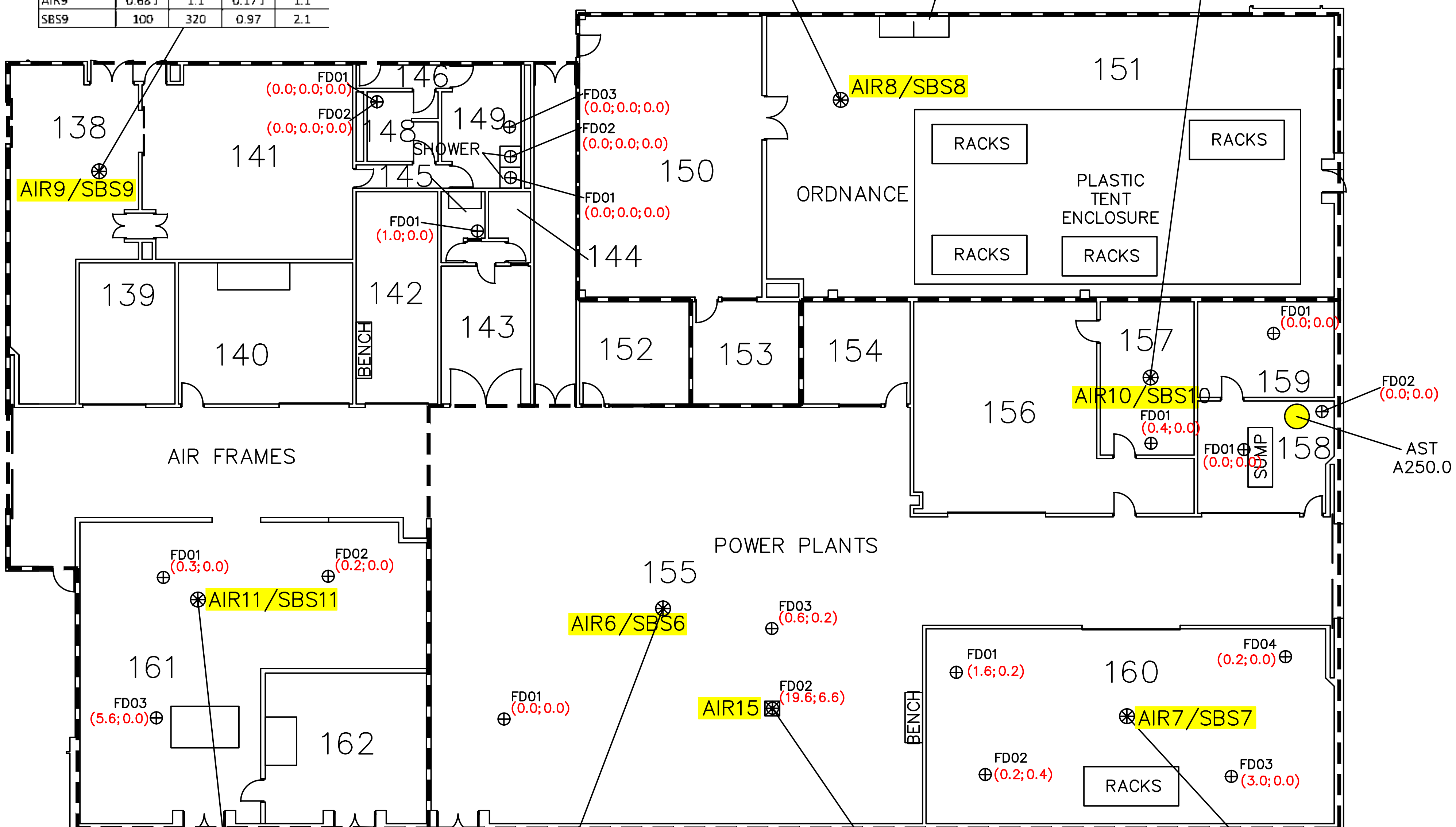
FILE	SCALE	
..\NASB_BLDG_250&H4_TAG1_REV1.DWG	PER SCALE BAR	
FIGURE NUMBER	REV	DATE
6	0	8/12/13

ACAD: C:\ALL_PROJECTS\00645\6060\NASB_BLDG_250&H4_TAG3_REV1.DWG 8/12/13 MKB

	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR9	0.68 J	1.1	0.17 J	1.1
SBS9	100	320	0.97	2.1

	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR8	0.12 J	0.42 U	0.34 U	0.13 J
SBS8	17	28 J	5.4	5.4 J

	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR10	0.1 J	0.38 J	0.34 U	0.34 U
SBS10	20 J	41	13 U	0.64 J

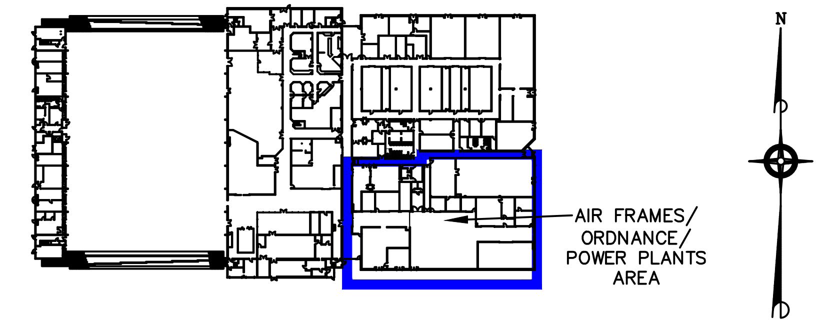


	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR11	0.12 J	0.2 J	0.34 U	0.51 J
SBS11	26	52	0.52 J	1.6 J

	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR6	0.12 J	0.48	0.34 U	0.14
SBS6	24.5	43	0.097 J	0.091 J

	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR15	36 J	--	0.091 J	--
AIR15(DUP)	0.42 UJ	--	0.34 U	--

	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR7	0.15 J	0.14 J	0.34 U	**12**
SBS7	34	60	0.22 J	2.7 U



LEGEND

FD01 FLOOR DRAIN

(0.4;0.2;0.0) PID RESULT (ppm) (September 2012;October 2012;May 2013)

AIR6/SBS6 INDOOR AIR SAMPLE/SUBSLAB SAMPLE LOCATION

AIR15 AIR SAMPLE LOCATION

	PCE (ug/m³)		TCE (ug/m³)		
	Rd1	Rd2	Rd1	Rd2	
AIR7	0.15 J	0.14 J	0.34 U	**12**	indoor or outdoor air sample results
SBS7	34	60	0.22 J	2.7 U	sub-slab soil gas results

Exceedance of criteria indicated by bold number and yellow shading

Comparison criteria:

Volatile Organic Compound	Indoor Air Minimum IAT/RSL Criteria Value[1,2,3] (ug/m³)	Soil Gas Target[4] (µg/m³)
tetrachloroethene (PCE)	47	2,350
trichloroethene (TCE)	3	150
chloroform	0.53	26.5

1. Maine RAGs for Sites Contaminated with Hazardous Substances, Table 2, May 2013
2. EPA Regional Screening Levels (May 2013)
3. Soil Gas Targets (SGTs) calculated by dividing minimum criteria value by MEDEP-adopted attenuation factor of 0.02 (MEDEP, 2010).

Notes:
Floor drain screening conducted September 18 and19, 2012, October 22, 2012 and May 3, 2013.
Indoor air samples and outdoor ambient air sample collected October 23, 2012 and May 21, 2013, (Round 1 and Round 2 respectively).
Sub-slab soil gas sample collected October 24 and 25, 2012, and again on May 22 and 23, 2013, (Round 1 and Round 2 respectively).

Abbreviations:

PCE	tetrachloroethene
TCE	trichloroethene
µg/m³	microgram per cubic meter
J	estimated result
U	not detected (with associated detection limit)
PID	photoionization detector
ppm	parts per million
Rd1	Round 1
Rd2	Round 2

GRAPHIC SCALE
0' 20'

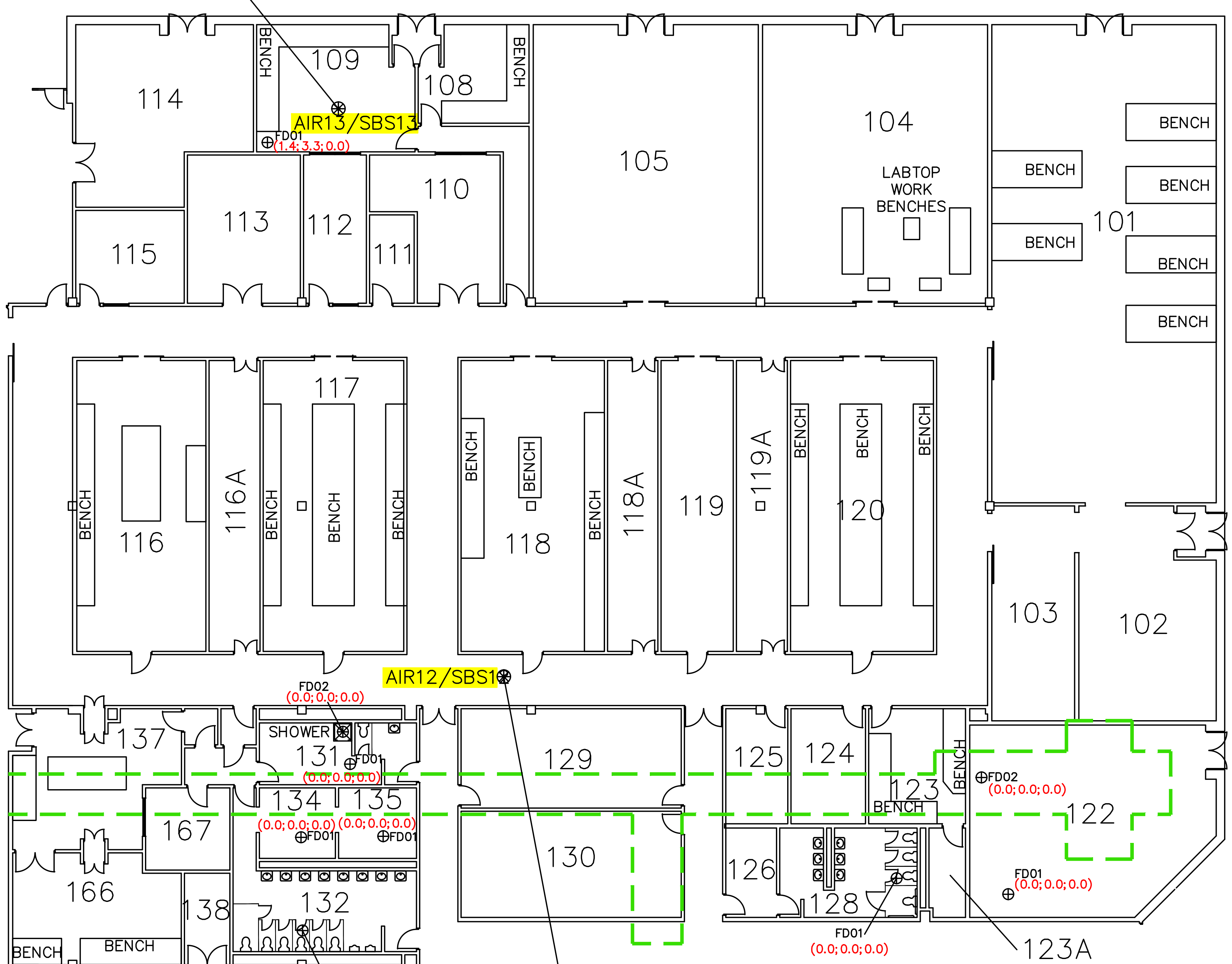
FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE LOCATIONS - AIR FRAMES/ORDNANCE/POWER PLANTS AREA

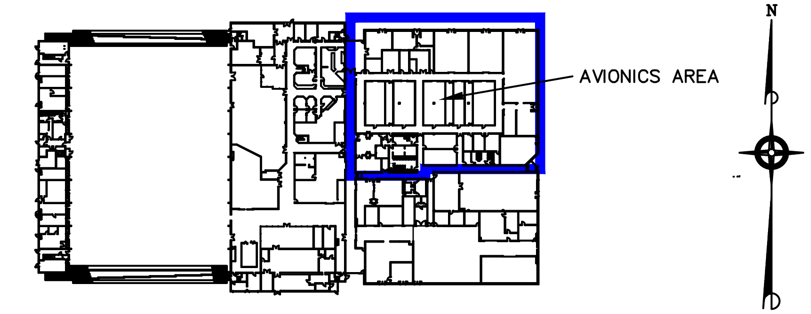
BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FILE	SCALE
\..\NASB_BLDG_250&H4_TAG3_REV1.DWG	PER SCALE BAR
FIGURE NUMBER 7	REV 0 / DATE 8/12/13

	PCE (µg/m³)		TCE (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2
AIR13	0.66 J	0.42 U	0.34 U	0.34 U
SBS13	10	10	0.14 J	0.35 U



	PCE (µg/m³)		TCE (µg/m³)		Chloroform (µg/m³)	
	Rd 1	Rd 2	Rd 1	Rd 2	Rd 1	Rd 2
AIR12	0.16 J	0.42 U	0.34 U	**8**	0.058 J	0.12 J
SBS12	31	53 J	31	22	**31**	7.8 J



LEGEND

FD01 ⊕ FLOOR DRAIN

(0.4;0.2;0.0) PID RESULT (ppm) (September 2012;October 2012;May 2013)

AIR6/SBS6 ⊛ INDOOR AIR SAMPLE/SUBSLAB SAMPLE LOCATION

— — UTILTY TUNNEL

	PCE (ug/m³)		TCE (ug/m³)		
	Rd1	Rd2	Rd1	Rd2	
AIR7	0.15 J	0.14 J	0.34 U	**12**	indoor or outdoor air sample results
SBS7	34	60	0.22 J	2.7 U	sub-slab soil gas results

Exceedance of criteria indicated by bold number and yellow shading.

Comparison criteria:

Volatile Organic Compound	Indoor Air Minimum IAT/RSL Criteria Value(1,2,3) (ug/m³)	Soil Gas Target(4) (µg/m³)
tetrachloroethene (PCE)	47	2,350
trichloroethene (TCE)	3	150
chloroform	0.53	26.5

1. Maine RAGs for Sites Contaminated with Hazardous Substances, Table 2, May 2013
2. EPA Regional Screening Levels (May 2013)
3. Soil Gas Targets (SGTs) calculated by dividing minimum criteria value by MEDEP-adopted attenuation factor of 0.02 (MEDEP, 2010).

Notes:
Floor drain screening conducted September 18 and19, 2012, October 22, 2012 and May 3, 2013.
Indoor air samples and outdoor ambient air sample collected October 23, 2012 and May 21, 2013, (Round 1 and Round 2 respectively).
Sub-slab soil gas sample collected October 24 and 25, 2012, and again on May 22 and 23, 2013, (Round 1 and Round 2 respectively).

Abbreviations:

PCE	tetrachloroethene
TCE	trichloroethene
µg/m³	microgram per cubic meter
J	estimated result
U	not detected (with associated detection limit)
PID	photoionization detector
ppm	parts per million
Rd1	Round 1
Rd2	Round 2

GRAPHIC SCALE
0' 20'

FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

INDOOR AIR AND SUB-SLAB SOIL GAS SAMPLE LOCATIONS - AVIONICS AREA

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

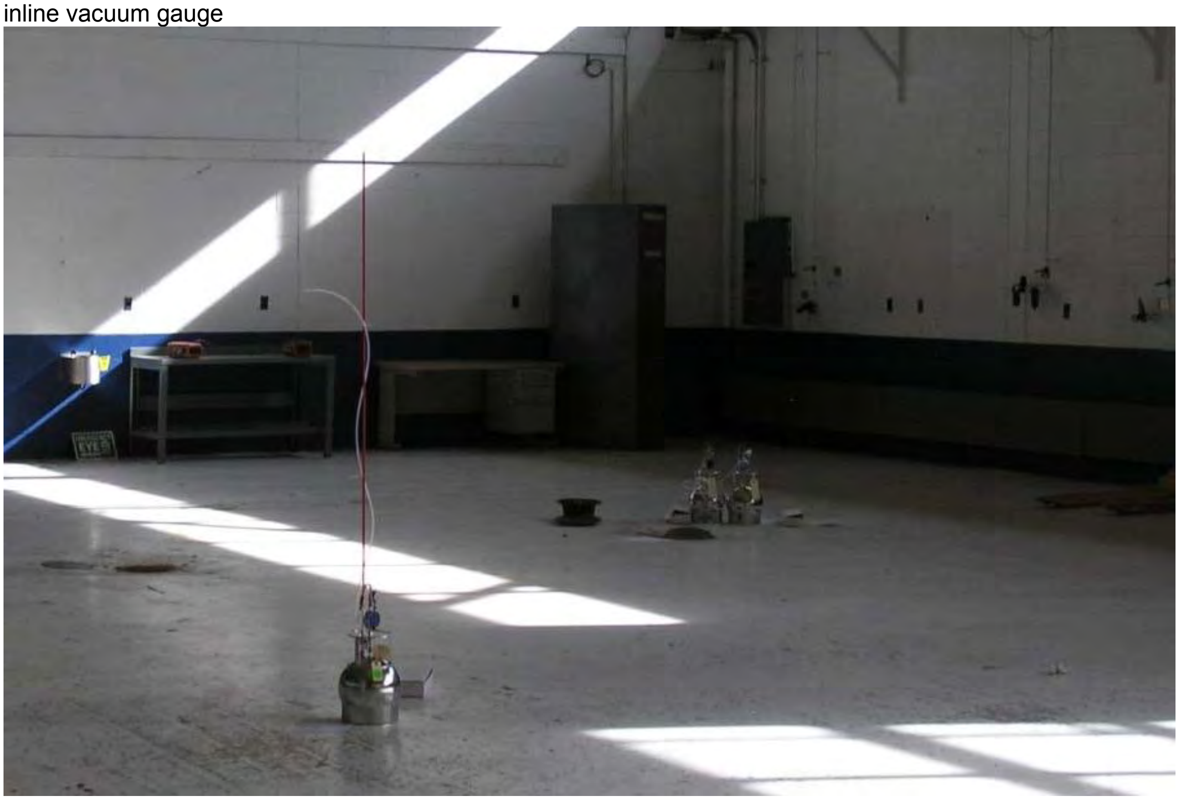
FILE	SCALE
\..\NASB_BLDG_250&H4_TAG2_REV1.DWG	PER SCALE BAR

FIGURE NUMBER	REV	DATE
8	0	8/12/13

ACAD: C:\ALL_PROJECTS\00645\6060\NASB_BLDG_250&H4_TAG2_REV1.DWG 8/12/13 MKB

PHOTOGRAPHS

No. 1 Building 250 Parcel Vapor Intrusion Investigation, Former NAS Brunswick October 25, 2012
Left: Pre-cleaned, laboratory-prepared, 6-liter Summa canister and air flow regulator; right: air flow regulator with inline vacuum gauge



No. 2 Building 250 Parcel Vapor Intrusion Investigation, Former NAS Brunswick October 23, 2012
AF/O/PP Area Room 155 Indoor air sample (AIR6) collection at left foreground with floor drain vapor sample (AIR15) collection in background; the sample tube intake is placed in the breathing zone (approximately 3 to 5 feet above the floor level).

No. 3 Building 250 Parcel Vapor Intrusion Investigation, Former NAS Brunswick October 23, 2012
Ambient air sample (AB102312) collection near Hangar 4 northwestern corner

No. 4 Building 250 Parcel Vapor Intrusion Investigation, Former NAS Brunswick October 25, 2012
Hangar 4 and Original AIMD Area SBS5 sub-slab soil gas sampling train; Summa canister sample collection tubing runs from blue intake shroud positioned over drilled sample hole in concrete slab with sample tubing intake placed directly below the concrete sub-slab

APPENDIX A

FIELD FORMS

A-1 SOIL BORING LOGS

A-2 WELL CONSTRUCTION LOGS

A-3 WELL DEVELOPMENT LOGS

A-4 LOW-FLOW PURGE DATA/GROUNDWATER SAMPLE LOGS

A-5 FLOOR DRAIN SCREENING LOGS

A-6 INDOOR AIR, UTILITY TUNNEL, FLOOR DRAIN VAPOR AND OUTDOOR AIR SAMPLE LOGS

A-7 SUB-SLAB SOIL GAS SAMPLE LOGS

A-1 SOIL BORING LOGS

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-01
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/29/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:	
		COMPLETION: DATE:	05/29/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-01
GRD. SURFACE ELEVATION:	60.22' NAVD88	ELEVATION FROM:	
		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			CONCRETE	Gray	(0.0-1.0) Concrete Apron (Standing Water in core)	—	— Concrete	—
2			FILL	Brown	(0.0-0.5) Sand(F-M), Some gravel, T-Silt	GP	Wet	S=0.0 H=0.0 S=0.0 H=0.0
	1.5 / 3.0	0838		Lt Brown	(0.5-1.2) Sand(F-M), increasing Silt at depth	SM	Dry Fill	S=0.0 H=0.0 S=0.0 H=0.0
4			SILT/ SAND/ CLAY	Dk Brown/ Brown	(1.2-1.5) Sand(F), Some Silt	↓	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.4 / 2.0	0842		↓	(0.0-0.2) -SAA (0.2-1.0) Silt & Sand(F), Some clay	SC	Dry	S=0.0 H=0.0 S=0.0 H=0.0
6				Brown	(1.0-1.4) Sand(F)	SW	Moist Upper Sand	S=0.0 H=0.0 S=0.0 H=0.0
	1.3 / 2.0	0846		↓	(0.0-1.3) SAA			S=0.0 H=0.0 S=0.0 H=0.0
8			SAND	↓	↓		↓	S=0.0 H=0.0 S=0.0 H=0.0
				Brown	(0.0-3.2) - SAA		wet	S=0.0 H=0.0
10								S=0.0 H=0.0
	3.2 / 4.0	0900						S=0.0 H=0.0
12				↓	↓		↓ Iron Staining	S=0.0 H=0.0
				Brown	(0.0-3.0) - SAA		wet	S=0.0 H=0.0
14					- Silt/Clay lenses 1.8-2.0 & 2.6-2.8			S=0.0 H=0.0
	4.0 / 4.0	0910		↓	(3.0-4.0) - Sand(F-M)			S=0.0 H=0.0
16				Brown/ Gray	↓	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT) / MACROCORE 40-45'
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-01

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW (Screen 29-39' bgs)

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	SB-B250-01
PROJECT NO.:	112G00958 / 0000.1000			START DATE:	05/29/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	05/29/12
DRILLED BY (Company/Driller):	MAI / S. Brown			MON. WELL NO.:	MW-B250-01
GRD. SURFACE ELEVATION:	60.22' NAVD 88	ELEVATION FROM:		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			SAND	Brown/ Gray	(0.0-4.0) SAA	SW	wet	S=0.0 H=0.0
18							Upper Sand	S=0.0 H=0.0
	4.0	0920						S=0.0 H=0.0
20	4.0							S=0.0 H=0.0
				Brown/Gray	(0.0-~~3.1~~ 2.8) - Sand(F)		wet	S=0.0 H=0.0
22								S=0.0 H=0.0
	4.0	0940	SAND/SILT CLAY	Gray	~~3.1~~ (2.8-3.3) Sand(F), Some silt + clay	SC	Transition	S=0.0 H=0.0
24	4.0		SAND	Brown	(3.3-4.0) Sand(F)	SW		S=0.0 H=0.0
					(0.0-2.8) SAA		wet	S=0.0 H=0.0
26								S=0.0 H=0.0
	4.0	0950	SAND/ SILT	Gray	(2.8-3.4) Sand(F), some silt	ML		S=0.0 H=0.0
28	4.0		SAND	Brown	(3.4-4.0) - Sand(F)			S=0.0 H=0.0
					(0.0-4.0) - SAA		wet	S=0.0 H=0.1
30								S=0.0 H=0.0
	4.0	1030					Fe Staining	S=0.0 H=0.0
32	4.0							S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / Macrocore 40-45
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-01

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW (Screen 29-39' bgs)

BORING LOG FOR: Former NASB – Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
LOGGED BY: B.Geringer
DRILLED BY (Company/Driller): MAI / S. Brown
GRD. SURFACE ELEVATION: 60.22' NAVD88

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: SB-B250-01
START DATE: 05/29/12
COMPLETION: DATE: 05/29/12
MON. WELL NO.: MW-B250-01
CHECKED BY: C Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			SAND	Brown	(0.0-4.0) SAA	SW	Wet	S=0.0 H=0.0
34							TRANSITION	S=0.0 H=0.0
	4.0	1040			(3.0-3.2) - Silt/Sand(F)			S=0.0 H=0.0
36	4.0							S=0.0 H=0.0
				Brown	(0.0-0.7) SAA		Wet	S=0.0 H=0.0
38				Gray	(0.7-1.2) -			S=0.0 H=0.0
	3.4	1050	SAND/ SILT/CLAY		(1.2-2.8) - Sand(F) & Silt, Some clay	SC		S=0.0 H=0.0
40	4.0		SAND		(2.8-3.4) Sand(F)	SW		S=0.0 H=0.0
				Gray	(0.0-0.3) SAA		Wet	S=0.0 H=0.0
42					(0.3-5.0) Clay - Plastic	CL	CLAY	S=0.0 H=0.0
			CLAY					S=0.0 H=0.0
44								S=0.0 H=0.0
	5.0	1100						S=0.0 H=0.0
45	5.0		EOB					S=0.0 H=0.0

TYPE OF DRILLING RIG: Geoprobe 6620 DT
METHOD OF ADVANCING BORING: Direct Push Technology (DPT) / MACROCORE 40-45
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB-B250-01

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW (Screen 29-39' bgs)

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	SB-B250-02
PROJECT NO.:	112G00958 / 0000.1000			START DATE:	05/29/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	05/29/12
DRILLED BY (Company/Driller):	MAI / S. Brown			MON. WELL NO.:	MW-B250-02
GRD. SURFACE ELEVATION:	61.22' NAVD 88	ELEVATION FROM:		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD. / COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	1.0 / 2.0	1300	ASPHALT	Brown	(0.0-0.3) Asphalt (0.3-0.7) Sand(f-m) & Gravel	GP	Dry ASPHALT	S=0.0 H=0.0 S=0.0 H=0.0
2			FILL	↓	(0.7-1.0) - Sand(f-m), Some Silt	SM	↓ FILL	S=0.0 H=0.0 S=0.0 H=0.0
	1.4 / 2.0	1305	SAND	Brown	(0.0-1.4) - Sand(f-m), T-Silt	SW	Dry UPPER	S=0.0 H=0.0 S=0.0 H=0.0
4				↓	↓		↓ SAND	S=0.0 H=0.0 S=0.0 H=0.0
	1.8 / 2.0	1310		Brown	(0.0-1.0) SAA		Dry	S=0.0 H=0.0 S=0.0 H=0.0
6			SILT	Brown/Gray	(1.0-1.8) - Sand(f) & Silt, T. clay - Stratified	SM	Moist	S=0.0 H=0.0 S=0.0 H=0.0
	2.0 / 2.0	1315	SAND SILT	Brown	(0.0-0.7) Sand(f), Little silt (0.7-1.5) Silt & Clay T-Sand(f)	SW SC	Wet	S=0.0 H=0.0 S=0.0 H=0.0
8				Lt Brown	(1.5-2.0) Sand(f)	SM	Dry Transition	S=0.0 H=0.0 S=0.0 H=0.0
	1.2 / 2.0	1320	SAND	↓	(0.0-0.9) - SAA		Moist	S=0.0 H=0.0 S=0.0 H=0.0
10				↓	(0.9-1.2) - Sand(f-m)		Wet	S=0.0 H=0.0 S=0.0 H=0.0
				Brown	(0.0-2.6) Sand(f)			S=0.0 H=0.0
12					Mica Flakes			S=0.0 H=0.0
	2.6 / 4.0	1326						S=0.0 H=0.0
14				↓	↓		↓	S=0.0 H=0.0
				Brown	(0.0-4.0) SAA		Wet	S=0.0 H=0.0
16				↓	↓	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 38-53
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-02

Tetra Tech, Inc.

PAGE: 1 OF 4

Tetra Tech Inc

Installed MW, Screen 37-47' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-02
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/29/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	05/29/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-02
GRD. SURFACE ELEVATION:	61.22' NAVD 88	CHECKED BY:	C Race

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0	1330	SAND	Brown	SAA	SW	Wet Transition	S=0.0 H=0.0
18	4.0			↓	↓	↓	↓	S=0.0 H=0.0
				Brown	(0.0-2.4) SAA		Wet	S=0.0 H=0.0
20					↓	↓	Fe Staining	S=0.0 H=0.0
	4.0	1338	SAND/ SILT		(2.4-4.0) Sand(F), Some Silt	SM	Transition	S=0.0 H=0.0
22	4.0			↓	↓		↓	S=0.0 H=0.0
				Brown	(0.0-2.6) SAA		Wet	S=0.0 H=0.0
24					↓	↓		S=0.0 H=0.0
	4.0	1343	SAND		(2.6-4.0) Sand(F)	SW		S=0.0 H=0.0
26	4.0			↓	↓		↓	S=0.0 H=0.0
				Brown	(0.0-4.0) - SAA		Wet	S=0.0 H=0.0
28								S=0.0 H=0.0
	4.0	1350						S=0.0 H=0.0
30	4.0			↓	↓ - Stratified		↓	S=0.0 H=0.0
				Brown	(0.0-4.0) - SAA		Wet	S=0.0 H=0.0
32				↓	↓	↓	↓ ↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 38-53'
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-02

Tetra Tech, Inc.

Tetra Tech Inc

Install MW - Screen 37-47' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-02
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/29/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	05/29/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-02
GRD. SURFACE ELEVATION:	61.22' NAVD 88	CHECKED BY:	L Race

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0	1353		Brown	SAA	SW	Wet Transition	S=0.0 H=0.0
34	4.0		SAND	Brown/Gray				S:0.0 H=0.0
					(0.0-4.0) SAA		Wet	S=0.0 H=0.0
36								S=0.0 H=0.0
	4.0	1400					Some Fe Staining	S=0.0 H=0.0
38	4.0						Transition	S=0.0 H=0.0
				Brown	(0.0-5.0) SAA		Wet	S=0.0 H=0.0
40								S=0.0 H=0.0
								S=0.0 H=0.0
42								S=0.0 H=0.0
	5.0	1420						S=0.0 H=0.0
44	5.0			Brown	(0.0-0.8) SAA		Wet	S=0.0 H=0.0
			SAND/SILT	Brown/Gray	(0.8-1.6) Sand(F), Some Silt	SM		S=0.0 H=0.0
46				Brown				S=0.0 H=0.0
	5.0	1510			(1.6-5.0) Sand(F)	SW		S=0.0 H=0.1
48	5.0							S=0.0 H=~~0.5~~ ~~0.0~~ 0.1 BG 5/29/12

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 38-53'
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-02

Tetra Tech, Inc.

Tetra Tech Inc

Install MW, Screen 37-47'

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-02
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/29/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	05/29/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-02
GRD. SURFACE ELEVATION:	61.22' NAVD88	CHECKED BY:	C. Race

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			CLAY	GRAY	(0.0-1.5) CLAY-Plastic	CL	Wet CLAY	S=0.0 H=0.0
50			SILT/SAND		(1.5-2.0) - Silt/Sand(F)	ML		S=0.0 H=0.0
			CLAY		(2.0-5.0) - CLAY - Plastic	CL		S=0.0 H=0.0
52								S=0.0 H=0.0
	5.0	1545						S=0.0 H=0.0
54	5.0		EOB					

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT) / MACROCORE 3B-53
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-02

Tetra Tech, Inc.

Tetra Tech Inc

Install, MW Screen 37-47' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-03
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/23/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	05/23/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-03
GRD. SURFACE ELEVATION:	59.10' NAVD 88	CHECKED BY:	C. Race

TRANSCRIBED BY: ________

ELEVATION FROM: ________

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	1.5	0735	TOPSOIL	Dk. Brown	(0.0-0.4) - Sand (F-M) T-C-Sand, T-Silt, Few roots	SP	Moist Topsoil	S=0.0 H=0.0 S=0.0 H=0.0
2	2.0			Brown	(0.4-1.5) - Sand (F-M) T-Silt	SW	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.5	0745		Brown	(0.0-1.5) - SAA	↓	Dry	S=0.0 H=0.0 S=0.0 H=0.0
4	2.0			Brown/Gray	- Dk Brown Silt lense at 0.9		↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.5	0750		Brown	(0.0-1.5) - SAA		Moist	S=0.0 H=0.0 S=0.0 H=0.0
6	2.0			↓	↓		↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.3	0755	UPPER SAND		(0.0-1.3) - SAA		Moist	S=0.0 H=0.0 S=0.0 H=0.0
8	2.0			↓	- Silt/Clay lense 1.0-1.2		↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.4	0800		Brown	(0.0-1.2) - SAA	↓	Moist	S=0.0 H=0.0 S=0.0 H=0.0
10	2.0			Brown Gray/	(1.2-1.4) - Sand (F), Some Silt	SM	Wet	S=0.0 H=0.0 S=0.0 H=0.0
				Brown	(0.0-1.7) - Sand (F-M), T-Silt	SW		S=0.0 H=0.0
12				Brown/Gray	↓	↓		S=0.0 H=0.0
	3.2	0810			(1.7-2.6) Sand (F), Some Silt	SM	Iron Staining	S=0.0 H=0.0
14	4.0		TRANSITION	↓	(2.6-3.2) Sand (F), & Silt, T-clay			S=0.0 H=0.0
			SAND/ SILT	Brown/ Gray	(0.0-2.7) - SAA - Alternating layers of Silt/clay			S=0.0 H=0.0
16				↓	↓	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE (38'-60')
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-250-03

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	SB-~~250~~ B250-03
PROJECT NO.:	112G00958 / 0000.1000			START DATE:	05/23/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	05/23/12
DRILLED BY (Company/Driller):	MAI / S. Brown			MON. WELL NO.:	MW-B250-03
GRD. SURFACE ELEVATION:	59.10' NAVD 88	ELEVATION FROM:		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD. / COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	3.7	0816		Gray	(2.7-3.7) - Sand(F), little Silt	SW	wet	S=0.0 H=0.0
18	4.0			↓	- Silt/clay lense (3.2-3.4)	↓		S=0.0 H=0.0
				Brown	(0.0-2.8) Sand(F), Some silt, Few interbedd	SM		S=0.0 H=0.0
20				↓	clay lenses	↓		S=0.0 H=0.0
	3.4	0830	TRANSITION	Gray	(2.8-3.1) Sand(F)	SW		S=0.0 H=0.0
22	4.0			Brown	(3.1-3.4) Sand(F), Some silt	SM	↓ Iron Staining	S=0.0 H=0.0
			SAND/ SILT		(0.0-3.6) Sand(F), T-Silt & T-m-Sand	SW	wet	S=0.0 H=0.0
24				↓	Silt lense at 1.5			S=0.0 H=0.0
	3.6	0845		Brown/Gray				S=0.0 H=0.0
26	4.0			↓	↓		↓	S=0.0 H=0.0
				Brown	(0.0-2.0) Sand(F), T-Silt		wet	S=0.0 H=0.0
28				↓	↓	↓	Iron Staining	S=0.0 H=0.0
	3.4	0900		Brown/Gray	(2.0-3.4) Sand(F), Some silt interbedd silt,	SM		S=0.0 H=0.0
30	4.0			↓	clay lense at (2.1-2.3)	↓	↓	S=0.0 H=0.0
				Brown	(0.0-3.1) Sand(F), T-Silt	SW	wet Flowing Sand	S=0.0 H=0.0
32				↓	↓	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE (38'-60')
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech, Inc.

BORING NO.: SB-250-03

PAGE: 2 OF 4

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR: Former NASB – Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
LOGGED BY: B.Geringer
DRILLED BY (Company/Driller): MAI / S. Brown
GRD. SURFACE ELEVATION: 59.10' NAVD88

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: SB-B250-03
START DATE: 05/23/12
COMPLETION: DATE: 05/23/12
MON. WELL NO.: MW-B250-03
CHECKED BY: C Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD/ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0 / 4.0	0910	SAND/ SILT	Brown	SAA	SW	Wet running Sand	S=0.0 H=0.0
34				↓	(3.1 - 4.0) - Sand(F), interbedded Silt		↓	S=0.0 H=0.0
				Brown	(0.0-4.0) - Sand(F), T-Silt		Wet	S=0.0 H=0.0
36								S=0.0 H=0.0
	4.0 / 4.0	925		↓	↓		Iron Staining	S=0.0 H=0.0
38				Brown/ Gray			↓	S=0.0 H=0.0
				Brown	(0.0-3.5) - SAA		Wet	S=0.0 H=0.0
40							Transition	S=0.0 H=0.0
	4.0 / 4.0	0945	SAND	↓	↓	↓		S=0.0 H=0.0
42			SAND/ SILT	Brown/ Gray	(3.5-4.0) Sand(F), Some silt (interbedded)	SM	↓ Iron Staining	S=0.0 H=0.0
				Brown	(0.0-2.0) Sand(F), T-Silt	SW	Wet	S=0.0 H=0.0
44								S=0.0 H=0.0
	2.0 / 4.0	1020	SAND					S=0.0 H=0.0
46				↓	↓		↓	S=0.0 H=0.0
				Brown	(0.0-1.2) SAA		Wet	S=0.0 H=0.0
48				↓	↓	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG: Geoprobe 6620 DT
METHOD OF ADVANCING BORING: Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING: Dual Tube / Macrocore (38' - 60')
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB-250-03

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-03
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/23/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	05/23/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-03
GRD. SURFACE ELEVATION:	59.10' NAVD88	CHECKED BY:	C. Race

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0	1055	SAND/ SILT	Brown	(1.2-4.0) - Sand(F), Some Silt	SM	Wet Transition	S=0.0 H=0.0
50	4.0			↓	↓	↓	↓	S=0.0 H=0.0
				Brown	(0.0-4.0) Sand ~~(F)~~ (F-M) DG, T. Silt, ~~T. m Sand~~ BG	SW	Wet	S=0.0 H=0.0
52			SAND					S=0.0 H=0.0
								S=0.0 H=0.0
54								S=0.0 H=0.0
	4.4	1140		↓	↓	↓	Iron Staining	S=0.0 H=0.0
55	5.0			Gray	(4.0-4.4) Sand(F), Some Silt	SM	↓	S=0.0 H=0.0
					(0.0-3.3) Clay - Plastic	CL	Wet	S=0.0 H=0.0
56							Clay	S=0.0 H=0.0
			CLAY					S=0.0 H=0.0
58					↓	↓		S=0.0 H=0.0
	4.6	1220		↓	(3.3-4.6) Sand(F) - Some Silt	SM	↓	S=0.0 H=0.0
60	5.0		SAND	Brown	↓	↓	↓	S=0.0 H=0.0
			EOB					

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube/ MACROCORE (38'-60')
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-250-03

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	SB-B250-04
PROJECT NO.:	112G00958 / 0000.1000			START DATE:	05/25/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	05/25/12
DRILLED BY (Company/Driller):	MAI / S. Brown			MON. WELL NO.:	MW-B250-04
GRD. SURFACE ELEVATION:	60.99' NAVD 88	ELEVATION FROM:		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			CONCRETE		CONCRETE APRON (0.0-1.5)	N/A	Concrete	
2			SAND/ GRAVEL	Brown	(0.0-0.7) Sand(F-m), Some gravel	GP	Dry Fill	S=0.0 H=0.3 S=0.0 H=0.1
	1.4	0905		↓	(0.7-1.4) - Sand F-m), T-Gravel	SP	↓ upper Sand	S=0.0 H=0.2 S=0.0 H=0.6
4	2.5			↓	↓	↓	↓	S=0.0 H=0.1 S=0.0 H=0.4
	1.3	0910	SAND	Brown	(0.0-1.3) Sand(F-m)	SW	Dry	S=0.0 H=0.5 S=0.0 H=0.3
6	2.0			Brown/ Gray	↓ ·Silt lam at 0.9	↓	moist	S=0.0 H=0.2 S=0.0 H=0.3
	1.4	0915		↓	(0.0-0.7) Sand(F), little silt	↓	wet Mottling	S=0.0 H=0.3 S=0.0 H=0.4
8	2.0		SAND/ SILT	Gray	(0.7-1.4) Sand(F), Some silt, increasing Silt Content at depth	SM	↓	S=0.0 H=0.6 S=0.0 H=0.1
				↓	(0.0-1.5) SAA	↓	wet	S=0.0 H=0.3
10					↓	↓		S=0.0 H=0.4
	4.0	0920			(1.5-4.0) Sand(F), T-Silt	SW		S=0.0 H=0.2
12	4.0		SAND	Brown	↓	↓	↓ Mottling	S=0.0 H=0.1
				↓	(0.0-0.6) Sand(F-m)	↓	wet	S=0.0 H=0.3
14				Gray	(0.6-3.8) Silt/Sand(F)/Clay	SC	TRANSITION	S=0.0 H=0.4
	4.0	0926	CLAY	Brown	↓	↓		S=0.0 H=0.1
16	4.0			↓	(3.8-4.0) Sand(F)	SW	↓ ↓	S=0.0 H=0.2

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-04

Tetra Tech, Inc.

Tetra Tech Inc

Installed well Screen 16-21' bgs

BORING LOG FOR: Former NASB – Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
LOGGED BY: B.Geringer
DRILLED BY (Company/Driller): MAI / S. Brown
GRD. SURFACE ELEVATION: 60.99' NAVD 88
TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: SB-B250-04
START DATE: 05/25/12
COMPLETION: DATE: 05/25/12
MON. WELL NO.: MW-B250-04
CHECKED BY: C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD. / COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			SAND	Brown	(0.0-2.0) Sand(F), T-Silt	SW	Wet TRANSITION	S=0.0 H=0.2
18					(2.0-2.3) Sand(F) & Silt	SM		S=0.0 H=0.1
	4.0	0932			(2.3-3.2) - Sand(F) T-Silt	SW		S=0.0 H=0.2
20	4.0		CLAY	Gray	(3.2-3.8) - Sand(F), Silt/Clay (3.8-4.0) - Sand(F)	SC		S=0.0 H=0.1
			SAND		(0.0-2.7) - Sand(F), T-Silt	SW	Wet	S=0.0 H=0.1
22								S=0.0 H=0.3
	4.0	0940	CLAY		(2.7-3.6) - Clay - T-Silt - Plastic	CL	CLAY	S=0.0 H=0.4
24	4.0		SAND		(3.6-4.0) Sand(F), T-Silt	SW		S=0.0 H=0.1
			N/A	N/A	No Recovery		N/A	N/A
26								
	0.0	0947						
28	4.0							
			CLAY	Gray	(0.0-3.7) Clay - very Plastic	CL	Wet	S=0.0 H=0.1
30								S=0.0 H=0.2
	3.7	0952						S=0.0 H=0.1
32	4.0		EOB				EOB	S=0.0 H=0.2

TYPE OF DRILLING RIG: Geoprobe 6620 DT
METHOD OF ADVANCING BORING: Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB-B250-04

Tetra Tech, Inc.

PAGE: 2 OF 2

Tetra Tech Inc

Installed MW Screen 16-21' bgs

BORING LOG FOR: Former NASB – Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
LOGGED BY: B.Geringer
DRILLED BY (Company/Driller): MAI / S. Brown
GRD. SURFACE ELEVATION: 61.45' NAVD88
TRANSCRIBED BY:
ELEVATION FROM:
BORING NO.: SB-B250-05
START DATE: 05/24/12
COMPLETION: DATE: 05/24/12
MON. WELL NO.: MW-B250-05
CHECKED BY: C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	1.5 /	0735	TOPSOIL	Dk Brown	(0.0-0.6) Sand(F-m), T-Silt, Gravel, roots	SP	Dry - Topsoil	S=0.0 H=0.0 S=0.0 H=0.0
2	/ 2.0		SAND	Brown	(0.6-1.5) Sand(F-m), little Gravel, T-Silt	SP	Fill	S=0.0 H=0.2 S=0.0 H=0.1
	1.7 /	0740	SILT/SAND		(0.0-1.5) Sand(F), Some Silt	ML		S=0.1 H=0.1 S=0.1 H=0.1
4	/ 2.0		SAND		(1.5-1.7) Sand(F-m)	SW	moist upper SAND	S=0.0 H=0.0 S=0.0 H=0.0
	1.8 /	0745		Brown	(0.0-1.8) - SAA			S=0.1 H=0.2 S=0.1 H=0.2
6	/ 2.0							S=0.0 H=0.2 S=0.0 H=0.3
	1.4 /	0750	(upper SAND)	Brown	(0.0-1.4) - SAA		Moist Fe	S=0.0 H=0.1 S=0.0 H=0.0
8	/ 2.0			Brown/Gray	- Mica Flakes - laminated		Wet Staining	S=0.0 H=0.1 S=0.0 H=0.2
	/				(0.0-3.0) - SAA		Wet	S=0.0 H=0.1
10	/							S=0.0 H=0.1
	3.0 /	0800						S=0.0 H=0.2
12	/ 4.0							S=0.0 H=0.3
	/			Brown/Gray	(0.0-1.9) SAA		wet	S=0.1 H=0.1
14	/							S=0.1 H=0.0
	4.0 /	0805			(1.9-4.0) - Sand(F), T-Silt		Brown	S=0.0 H=0.2
16	/ 4.0							S=0.0 H=0.1

TYPE OF DRILLING RIG: Geoprobe 6620 DT
METHOD OF ADVANCING BORING: Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING: Dual Tube / MACROCORE (28-38')
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB-B250-05

Tetra Tech, Inc.

Tetra Tech Inc

Installed mw (Screen 29-28' bgs)

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-05
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/24/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:	
		COMPLETION DATE:	05/24/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-05
GRD. SURFACE ELEVATION:	61.45' NAVD 88	ELEVATION FROM:	
		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			UPPER SAND	Brown/Gray	(0.0 - 2.1) - SAA	SW	wet upper SAND	S=0.0 H=0.2
18								S=0.0 H=0.1
	2.7	0815						S=0.0 H=0.1
20	4.0				(2.1-2.7) - Sand(F), Some Silt, laminated	ML	Iron Staining	S=0.0 H=0.2
			SAND/ SILT/CLAY	Gray	(0.0-3.3) Silt(F) & Sand(F), Some clay	SC	wet Transition	S=0.0 H=0.3
22								S=0.0 H=0.1
	4.0	0820		Brown				S=0.0 H=0.1
24	4.0				(3.3-4.0) Sand(F) & Silt	SW		S=0.0 H=0.0
				Gray	(0.0-1.0) Sand(F), little Silt		wet/loose	S=0.0 H=0.1
26			SAND					S=0.0 H=0.1
	1.0	0830						S=0.0 H=0.1
28	4.0							S=0.0 H=0.1
				Gray	(0.0-1.1) Sand(F) & Silt		wet	S=0.0 H=0.1
30					(1.1 - 3.0) - Clay, plastic, T-Silt	CL	CLAY	S=0.0 H=0.1
			CLAY					S=0.0 H=0.2
32								S=0.0 H=0.1

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE (28-38')
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech, Inc.

BORING NO.: SB-B250-05

Tetra Tech Inc

Installed MW Screen 23-28' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation		BORING NO.: SB-B250-05
PROJECT NO.:	112G00958 / 0000.1000		START DATE: 05/24/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:	COMPLETION: DATE: 05/24/12
DRILLED BY (Company/Driller):	MAI / S. Brown		MON. WELL NO.: MW-B250-05
GRD. SURFACE ELEVATION:	61.45' NAVD 88	ELEVATION FROM:	ED BY: C. Race

28-33' - 31.6

33 - 38

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATE… CLASSIFI…	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	3.0	0900		Gray	SAA	L	wet	S=0.0 H=0.1
33	5.0				(0.0-4.0) - SAA		CLAY	S=0.0 H=0.1
34								S=0.0 H=0.2
35			CLAY					S=0.0 H=0.0
36								S=0.0 H=0.1
37								S=0.0 H=0.1
38	4.0	0915						S=0.0 H=0.1
	5.0		EOB 38'					

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE (28-38')
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-05

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW (Screen 23-28 bgs)

BORING LOG FOR:	Former NASB -- Building 250 Investigation	BORING NO.:	SB-B250-06
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/30/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:	
		COMPLETION: DATE:	05/30/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-06
GRD. SURFACE ELEVATION:	58.01' NAVD88	ELEVATION FROM:	
		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	1.2	0735	ASPHALT	BLACK	(0.0-0.3) Asphlt	—	ASPHALT	S=0.0 H=0.0 S=0.0 H=0.0
2	2.0		SAND/ GRAVEL (FILL)	Brown	(0.3-1.2) - Sand(F-C), + Gravel	GP	Dry	S=0.0 H=0.0 S=0.0 H=0.0
	1.5	0740		↓	(0.0-0.5) SAA. Few asphlt chunks	↓	FILL	S=0.0 H=0.0 S=0.0 H=0.0
4	2.0			LT Brown	(0.5-1.5) - Sand(F-M) Some Silt 1.2-1.5	SW	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.5	0745		↓	(0.0-1.5) Sand(F-M)		Dry	S=0.0 H=0.0 S=0.0 H=0.0
6	2.0				↓		Moist UPPER	S=0.0 H=0.0 S=0.0 H=0.0
	1.7	0748		LT Brown	(0.0-1.7) - SAA		SAND	S=0.0 H=0.0 S=0.0 H=0.0
8	2.0		UPPER SAND	↓	↓ little Silt 1.5-1.7	↓	Wet at 1.5	S=0.0 H=0.0 S=0.0 H=0.0
	1.5	0751		Brown	(0.0-0.9) Sand(F), little silt (0.9-1.2) Silt + Sand(F)	ML	wet	S=0.0 H=0.0
10	2.0			↓	(1.2-1.5) Sand(F), T-Silt	SW	↓	S=0.0 H=0.0
				Brown	(0.0-3.7) SAA		wet	S=0.0 H=0.0
12								S=0.0 H=0.0
	3.7	0800						S=0.0 H=0.0
14	4.0			↓	↓		↓	S=0.0 H=0.0
				Brown	(0.0-3.2) SAA		wet	S=0.0 H=0.0
16				↓	↓	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube/ MACROCORE 42-57'
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-06

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	SB-B250-06
PROJECT NO.:	112G00958 / 0000.1000			START DATE:	05/30/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	05/30/12
DRILLED BY (Company/Driller):	MAI / S. Brown			MON. WELL NO.:	MW-B250-06
GRD. SURFACE ELEVATION:	58.01' NAVD88	ELEVATION FROM:		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0 / 4.0	0803	SAND/ SILT TRANSITION	Brown	(3.2-4.0) Silt; Sand(F)	ML	Wet Iron Staining	S: 0.0 H: 0.0
18				↓	↓	↓	↓	S: 0.0 H: 0.0
				Brown	(0.0-0.8) Sand(F); Silt, T-clay	↓	Wet Transition	S: 0.0 H: 0.0
20					(0.8-1.4) Sand(F), T-Silt	SW		S: 0.0 H: 0.0
	4.0 / 4.0	0807	CLAY		(1.4-2.1) Silt; Clay, T-Sand(F) (2.1-3.2) Sand(F)	SC / SW		S: 0.0 H: 0.0
22				↓	(3.2-4.0) Sand(F), little Silt	↓	↓	S: 0.0 H: 0.0
				Brown	(0.0-1.6) Sand(F)	↓	Wet	S: 0.0 H: 0.0
24				Brown/ Gray	(1.6-1.8) Silt; Sand(F), T-clay	SC		S: 0.0 H: 0.0
				Brown	(1.8-3.1) Sand(F)	SW		S: 0.0 H: 0.0
26				↓	↓	↓		S: 0.0 H: 0.0
	5.0 / 5.0	0815	CLAY	Brown/ Gray	(3.1-3.4) Silt; Clay, T-Sand(F) (3.4-5.0) Sand(F)	SC / SW	↓	S: 0.0 H: 0.0
28				Brown	(0.0-3.0) Sand(F)		Wet	S: 0.0 H: 0.0
	3.0 / 3.0	0820		↓	↓			S: 0.0 H: 0.0
30			SAND					S: 0.0 H: 0.0
				Brown	(0.0-4.0) Sand(F), little Silt			S: 0.0 H: 0.0
32				↓	↓	↓	↓	S: 0.0 H: 0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 42-57'
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-06

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	SB-B250-06
PROJECT NO.:	112G00958 / 0000.1000			START DATE:	05/30/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	05/30/12
DRILLED BY (Company/Driller):	MAI / S. Brown			MON. WELL NO.:	MW-B250-06
GRD. SURFACE ELEVATION:	58.01' NAVD 88	ELEVATION FROM:		CHECKED BY:	G. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0	0835		Brown	SAA	SW	Wet Transition	S=0.0 H=0.0
34	4.0			↓	↓	↓	↓	S=0.0 H=0.0
			SAND	Brown	(0.0-4.0) Sand(F)		Wet	S=0.0 H=0.0
36								S=0.0 H=0.0
	4.0	0845						S=0.0 H=0.0
38	4.0			↓	↓		↓	S=0.0 H=0.0
				Brown	(0.0-4.0) SAA		Wet	S=0.0 H=0.0
40								S=0.0 H=0.0
	4.0	0900						S=0.0 H=0.0
42	4.0			↓	↓		↓ Iron Staining	S=0.0 H=0.0
				Brown	(0.0-4.6) SAA		Wet	S=0.0 H=0.0
44								S=0.0 H=0.0
								S=0.0 H=0.0
46							↓ Iron Staining	S=0.0 H=0.0
	4.6	0930		↓	↓		Wet	S=0.0 H=0.0
48	5.0			Brown	(0.0-3.7) - SAA	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT		Tetra Tech, Inc.
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)		
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 42-57'		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:			
OTHER OBSERVATIONS:		BORING NO.: SB-B250-06	PAGE: 3 OF 4

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-06
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/30/12
LOGGED BY:	B.Geringer TRANSCRIBED BY:	COMPLETION: DATE:	05/30/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-06
GRD. SURFACE ELEVATION:	58.01' NAVD 88 ELEVATION FROM:	CHECKED BY:	G Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
				Brown	SAA	SW	Wet Transition	S=0.0 H=0.0
50			SAND					S=0.0 H=0.0
	4.0	1000						S=0.0 H=0.0
52	5.0			Brown/ Gray	(3.7-4.0) Sand(F), Some Silt	ML		S=0.0 H=0.0
			SAND/SILT	Gray			Wet	S=0.0 H=0.0
54				Gray	(0.0-0.7) - Clay - Plastic	CL	Wet Clay	S=0.0 H=0.0
			CLAY		(0.7-1.2) - Sand(F), Some silt		Wet	S=0.0 H=0.0
56					1.2-3.8) Clay - Plastic			S=0.0 H=0.0
	3.8	1100						S=0.0 H=0.0
58	5.0		EOB					

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 42-57
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-06

Tetra Tech, Inc.

PAGE: 4 OF 4

Tetra Tech Inc

Installed MW, Screen 43-53' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-07
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/30/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	~~05/30/12~~ BG 05/31/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-07
GRD. SURFACE ELEVATION:	57.18' NAVD88	CHECKED BY:	C. Race

TRANSCRIBED BY: ________

ELEVATION FROM: ________

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	1.4	1325	Topsoil	Dk. Brown			Topsoil	S=0.0 H=0.0
				LT Brown	(0.0-0.4) Sand(F-m), little Silt, (0.4-1.0) Sand(F-m)	SW		S=0.0 H=0.0
2	2.0		SAND/SILT	LT Brown/Gray	~~0.4~~(1.0-1.4) - Sand(F), Some Silt	ML	Dry	S=0.0 H=0.0 S=0.0 H=0.0
	1.6	1328		LT Brown	(0.0-0.7) SAA (0.7-1.2) Sand(F-m)	SW	Fill	S=0.0 H=0.0 S=0.0 H=0.0
4	2.0		SILT/SAND CLAY	Gray	(1.2-1.6) Silt, Sand(F) & Clay	SC	moist	S=0.0 H=0.0 S=0.0 H=0.0
	1.5	1332			(0.0-0.5) SAA			S=0.0 H=0.0 S=0.0 H=0.0
6	2.0			LT Brown	(0.5-1.5) Sand(F)	SW	Upper SAND	S=0.0 H=0.0 S=0.0 H=0.0
	1.4	1337		Brown	(0.0-1.4) SAA		Wet @ 0.5	S=0.0 H=0.0
8	2.0						Wet	S=0.0 H=0.0
				Brown	(0.0-0.5) SAA			S=0.0 H=0.0
10					(0.5-2.3) Sand(F-m)			S=0.0 H=0.0
	2.8	1342	SAND					S=0.0 H=0.0
12	4.0			Dk. Brown	(2.3-2.8) Sand(F)			S=0.0 H=0.0
				Brown/Red	(0.0-4.0) Sand(F-m)		Wet Iron Staining	S=0.0 H=0.0
14								S=0.0 H=0.0
	4.0	1348						S=0.0 H=0.0
16	4.0			Brown				S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 40-50
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech, Inc.

BORING NO.: SB-B250-07

Tetra Tech Inc

Installed MW. Screen 29-39' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-07
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/30/12
LOGGED BY:	B.Geringer	COMPLETION DATE:	~~05/30/12~~ BG 05/31/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-07
GRD. SURFACE ELEVATION:	57.18' NAVD 88	CHECKED BY:	C. Race

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			SAND/SILT	Red/Brown	(0.0-2.5) - Sand(F) & Silt	ML	Wet Transition	S=0.0 H=0.0
18				Brown/Gray	- Clay lense at 1.1-1.3			S=0.0 H=0.0
	4.0	1355			(2.5-4.0) - Sand(F), T-Silt	SW		S=0.0 H=0.0
20	4.0							S=0.0 H=0.0
				Brown/Gray	(0.0-4.0) Sand(F)		Wet	S=0.0 H=0.0
22								S=0.0 H=0.0
	4.0	1405			Silt lense at 2.8 Mica Flakes			S=0.0 H=0.0
24	4.0		SAND					S=0.0 H=0.0
				Brown/Gray	(0.0-4.0) SAA		Wet	S=0.0 H=0.0
26								S=0.0 H=0.0
	4.0	1415						S=0.0 H=0.0
28	4.0							S=0.0 H=0.0
				Brown/Gray	(0.0-2.3) SAA		Wet	S=0.0 H=0.0
30								S=0.0 H=0.0
	4.0	1425		Brown	(2.3-3.7) - Sand(F), little silt		Iron Staining	S=0.0 H=0.0
32	4.0		SAND/SILT		(3.7-4.0) - Sand(F), Silt, T-Clay	ML		S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 40-50
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-07

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW, Screen 29-39' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-07
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/30/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	~~05/30/12~~ BG 05/31/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-07
GRD. SURFACE ELEVATION:	57.18' NAVD 88	CHECKED BY:	C. Race

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			SAND	Brown	(0.0 - 3.0) - Sand(F), T-Silt	SW	Wet TRANSITION	S=0.0 H=0.0
34								S=0.0 H=0.0
	4.0	1440	SAND/ SILT		(3.0-3.4) - Sand(F), interbedded Silt	ML		S=0.0 H=0.0
36	4.0				(3.4-4.0) - Sand(F)	SW	Iron Staining	S=0.0 H=0.0
				Brown	(0.0-4.0) SAA		Wet	S=0.0 H=0.0
38			SAND					S=0.0 H=0.0
	4.0	1445						S=0.0 H=0.0
40	4.0							S=0.0 H=0.0
				N/A	- No recovery		CLAY (see "Third Attempt" - Pg 4)	S: - H: -
42			CLAY see "Third Attempt" (Pg4)		- Appears to be very Soft			S: - H: -
								S: - H: -
44								S: - H: -
	0.0	~~1515~~ *						S: - H: -
46	5.0			Gray	(0.0-5.0) Clay - very soft/plastic	CL	Wet	S=0.0 H=0.0
			CLAY					S=0.0 H=0.0
48								S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 40-50
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech, Inc.

BORING NO.: SB-B250-07

PAGE: 3 OF 4

Tetra Tech Inc

*= Sample point Stuck in Casing - No recovery-
- Make Second attempt - No recovery

Installed MW, Screen 29-39' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	SB-B250-07
PROJECT NO.:	112G00958 / 0000.1000			START DATE:	05/30/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	05/31/12
DRILLED BY (Company/Driller):	MAI / S. Brown			MON. WELL NO.:	MW-B250-07
GRD. SURFACE ELEVATION:	57.18' NAVD 88	ELEVATION FROM:		CHECKED BY:	C. RACE

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	5.0	1600	CLAY	Gray	SAA	CL	wet CLAY	S=0.0 H=0.0
50	5.0			↓	↓	↓	↓	S=0.0 H=0.0
			EOB					
					Third Attempt to recover 40-45' - below -			
40								
				Gray	(0.0-5.0) Clay - Plastic	CL	wet	S=0.0 H=0.0
42								S=0.0 H=0.0
			CLAY					S=0.0 H=0.0
44								S=0.0 H=0.0
		0825 05/31/12		↓	↓	↓	↓	S=0.0 H=0.0
46	5.0							

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE 40-50
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-07

Tetra Tech, Inc.

Tetra Tech Inc

Installed MW, Screen 29-39' bgs

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-08
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/23/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	05/23/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-08
GRD. SURFACE ELEVATION:	58.41' NAVD 88	CHECKED BY:	C. Race

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD. / COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			CONCRETE		(0.0-1.0) - CONCRETE APRON	N/A	Concrete	
1			FILL	Brown	(0.0-0.5) Sand(f-m), Some Gravel	GP	Dry	SF SF
	1.6	1315		Dk. Brown	(0.5-1.6) - Sand(f-m), little Silt	SP		S=0.0 H=0.0 S=0.0 H=0.0
3	2.0			Brown			Fill	S=0.0 H=0.0 S=0.0 H=0.0
	1.8	1325		Dk Brown	(0.0-0.6) Sand(f-m), little Silt		Dry	S=0.0 H=0.0 S=0.0 H=0.0
5	2.0			Brown	(0.6-1.8) Sand(f-m)	SW	Upper Sand	S=0.0 H=0.0 S=0.0 H=0.0
	1.7	1335			(0.0-1.5) - SAA - T-C Sand		Dry	S=0.0 H=0.0 S=0.0 H=0.0
7	2.0				(1.5-1.7) Sand(f-c)			S=0.0 H=0.0 S=0.0 H=0.0
	1.5	1340	UPPER SAND	Brown	(0.0-1.5) - SAA		Dry	S=0.0 H=0.0 S=0.0 H=0.0
9	2.0						Moist	S=0.0 H=0.0 S=0.0 H=0.0
	1.7	1345		Brown	(0.0-0.7) - SAA - clay chunks interbedded		wet	S=0.0 H=0.0 S=0.0 H=0.0
11	2.0				(0.7-1.7) Sand(F), Some Silt	SM	Iron Staining	S=0.0 H=0.0 S=0.0 H=0.0
			TRANSITION	Brown	(0.0-4.0) SAA		wet TRANSITION	SF S=0.0 H=0.0
13					- Silt/clay lenses (2.0-3.5)			S=0.0 H=0.0
	4.0	1355						S=0.0 H=0.0
15	4.0						Iron Staining	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE (43'-47')
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-08

Tetra Tech, Inc.

PAGE: 1 OF 3

Tetra Tech Inc

Install mw, Screen ~~34'-44'~~ 33-43' bgs BG 5/25/12

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	SB-B250-08
PROJECT NO.:	112G00958 / 0000.1000	START DATE:	05/23/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:	
		COMPLETION: DATE:	05/23/12
DRILLED BY (Company/Driller):	MAI / S. Brown	MON. WELL NO.:	MW-B250-08
GRD. SURFACE ELEVATION:	58.41' NAVD 88	ELEVATION FROM:	
		CHECKED BY:	C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			SAND/SILT	Brown	(0.0-4.0) Sand(F), Some Silt	SM	Wet	S=0.0 H=0.0
17			SAND/ SILT/CLAY		Silt clay lenses (0.7-0.8), 1.4-1.7)(2.8-2.9)	SC	Transition	S=0.0 H=0.0
	4.0	1350						S=0.0 H=0.0
19	4.0						Mottling	S=0.0 H=0.0
			SAND	Brown	(0.0-3.2) - Sand(F), little Silt	SW	Wet	S=0.0 H=0.0
21					(3.2-4.0) Sand(F), T-Silt			S=0.0 H=0.0
	4.0	1405						S=0.0 H=0.0
23	4.0			Brown/Tan				S=0.0 H=0.0
				Brown	(0.0-3.2) - SAA		Wet	S=0.0 H=0.0
25								S=0.0 H=0.0
	4.0	1415					Iron Staining	S=0.0 H=0.0
27	4.0		SAND/SILT	Brown/ Gray	(3.2-4.0) Sand(F) & interbedded Silt	SM		S=0.0 H=0.0
			SAND	Brown	(0.0-3.5) Sand(F), T-Silt	SW	Wet	S=0.0 H=0.0
29								S=0.0 H=0.0
	4.0	1420						S=0.0 H=0.0
31	4.0		SAND/ SILT		3.5-4.0 Sand(F) & interbedded Silt	SM		S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube / MACROCORE (43'-47')
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-08

Tetra Tech, Inc.

PAGE: 2 OF 3

Tetra Tech Inc

Install mw, Screen ~~34-49~~ 33-48' bgs BG 5/25/12

BORING LOG FOR: Former NASB – Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
LOGGED BY: B.Geringer
DRILLED BY (Company/Driller): MAI / S. Brown
GRD. SURFACE ELEVATION: 58.41' NAVD 88

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: SB-B250-08
START DATE: 05/23/12
COMPLETION: DATE: 05/23/12
MON. WELL NO.: MW-B250-08
CHECKED BY: C. Race

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
				Brown	(0.0-4.0) Sand(F), T-Silt	SW	Wet Transition	S=0.0 H=0.0
33			SAND					S=0.0 H=0.0
	4.0							S=0.0 H=0.0
35	4.0	1426						S=0.0 H=0.0
				Brown	(0.0-4.0) - SAA		Wet	S=0.0 H=0.0
37					- Silt/clay lense @ (3.5-3.7) (Gray)			S=0.0 H=0.0
	4.0	1434						S=0.0 H=0.0
39	4.0							S=0.0 H=0.0
				Brown	(0.0-1.5) - SAA		Wet	S=0.0 H=0.0
41			SAND/ SILT/CLAY	Brown/Gray	(1.5-3.3) Sand(F), Silt clay nodules interbedded	SC		S=0.0 H=0.0
	4.0	1442			(3.3-3.8) - Sand(F) ≥ interbedded Silt/clay lenses			S=0.0 H=0.0
43	4.0		SAND	Gray	(3.8-4.0) - Sand(F), T-Silt	SW		S=0.0 H=0.0
					(0.0-1.4) - SAA		Wet	S=0.0 H=0.0
45								S=0.0 H=0.0
	4.0	1505	CLAY		(1.4-4.0) - Clay - Plastic	CL	Moist Clay	S=0.0 H=0.0
47	4.0							S=0.0 H=0.0

TYPE OF DRILLING RIG: Geoprobe 6620 DT
METHOD OF ADVANCING BORING: Direct Push Technology (DPT)
METHOD OF SOIL SAMPLING: Dual Tube MACROCORE (43'-47')
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB250-08

Tetra Tech, Inc.

PAGE: 3 OF 3

Tetra Tech Inc

Install MW Screen (~~34-44' bgs~~ BG 5/25/12 [illegible])

BORING LOG FOR: Former NASB – Building 250 Investigation
PROJECT NO.: 112G00958 / 000.1000
LOGGED BY: B.Geringer
DRILLED BY (Company/Driller): MAI / S.Brown
GRD. SURFACE ELEVATION: 60.82 NAVD 88

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-SB-B250-09
START DATE: 09/25/12
COMPLETION: DATE: 09/25/12
MON. WELL NO.: MW-B250-09
CHECKED BY: T.Evans (GE505)

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	(0.0-1.0) Concrete MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID (PPM)
	1.5	1042	SAND	Brown	(0.0-1.5) - Sand(F-m), T-Gravel	SP	Moist (Due to Concrete Coring Water)	S=0.0 H=0.0 S=0.0 H=0.0
3	2.0			↓	↓	↓	Dry	S=0.0 H=0.0 S=0.0 H=0.0
	1.4	1048			(0.0-1.4) - Sand(F-m)		Dry	S=0.0 H=0.0 S=0.0 H=0.0
5	2.0			↓	↓		↓	S=0.0 H=0.0 S=0.0 H=0.0
	2.0	1052		Brown	(0.0-0.5) SAA	↓	Dry	S=0.0 H=0.0 S=0.0 H=0.0
7	2.0		SAND/ SILT/CLAY	Brown/ Gray	(0.5-2.0) Sand(F), interbedded Silt/Clay lenses	SM	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.9	1057	SAND	Brown	(0.0-0.5) - SAA	↓	Wet	S=0.0 H=0.0
9	2.0		SILT	Brown/ Gray	(0.5-1.9) - Sand(F-m) Silt(1.5-1.8)	SP	↓	S=0.0 H=0.0
			SAND/SILT	Gray	(0.0-0.5) Silt & Sand(F) T-clay	SM	Wet	S=0.0 H=0.0
11					(0.5-2.3) Sand(F), T-Silt	SP		S=0.0 H=0.0
	3.5	1104		Brown	↓			S=0.0 H=0.0
13	4.0		SAND	↓	(2.3-3.5) Sand(F-m) Fe Staining		↓	S=0.0 H=0.0
					(0.0-4.0) SAA		Wet	S=0.0 H=0.0
15				↓				S=0.0 H=0.0
	4.0	1107		Gray				S=0.0 H=0.0
17	4.0			↓	↓ Installed MW, Set Screen 5-15' bgs	↓	↓	S=0.0 H=0.0

EOB Inst Installed on 09/26/12

TYPE OF DRILLING RIG: Geoprobe 6620 DT
METHOD OF ADVANCING BORING: Direct Push technology (DPT)
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB-B250-09

Tetra Tech, Inc.

PAGE: 1 OF 1

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	NASB-SB-B250-10
PROJECT NO.:	112G00958 / 000.1000			START DATE:	09/25/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	09/25/12
DRILLED BY (Company/Driller):	MAI / S.Brown			MON. WELL NO.:	MW-B250-10
GRD. SURFACE ELEVATION:	60.70' NAVD88	ELEVATION FROM:		CHECKED BY:	T. Evans (GES05)

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD. / COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			CONCRETE	Gray	CONCRETE APRON			S H
2			SAND	Brown	(0.0-0.3) Sand(F-m), T-Gravel	SP	Moist - From concrete coring	S=0.0 H=0.0 S=0.0 H=0.0
	2.5	1126		↓	(0.3-1.8) - Sand(F-m), T-Silt (1.8-2.0) Silt & clay	↓	Dry	S=0.0 H=0.0 S=0.0 H=0.0
4	3.0		SILT/CLAY SAND	↓	(1.8-3.0) - Sand(F-m)	CL SP	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.3	1130	SILT/CLAY	Brown/Gray	(0.0-0.7) - SAA (0.7-1.0) Silt & clay	SP CL	Dry	S=0.0 H=0.0 S=0.0 H=0.0
6	2.0			Brown	(1.0-1.3) Sand(F-m)	SP	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.9	1134		↓	(0.0-1.9) SAA		Dry	S=0.0 H=0.0 S=0.0 H=0.0
8	2.0			LT Brown	↓		Moist	S=0.0 H=0.0 S=0.0 H=0.0
	1.4	1137	SAND	↓	(0.0-1.4) - SAA		↓	S=0.0 H=0.0 S=0.0 H=0.0
10	2.0			Brown/Gray	↓		Wet at 1.0	S=0.0 H=0.0
				↓	(0.0-1.1) - SAA - Some Fe Staining		Wet	S=0.0 H=0.0
12				Brown	(1.1-3.3) - Sand(F), T-Silt	↓		S=0.0 H=0.0
	3.3	1142	SILT/CLAY	↓	↓ Interbedded Silt & clay at 2.2, 2.5-2.6, 3.2 (Gray)	SC		S=0.0 H=0.0
14	4.0			↓	↓ 3.2	SP	↓	S=0.0 H=0.0
			SAND	Brown	(0.0-~~4.0~~ 3.2) - (SAA) ~~0.0~~		Wet	S=0.0 H=0.0
16				↓	- Silt & Clay lense : 2.6-2.8 (Gray)	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech, Inc.

BORING NO.: SB-B250-10

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation		BORING NO.:	NASB-SB-B250-10
PROJECT NO.:	112G00958 / 000.1000		START DATE:	09/25/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:	COMPLETION: DATE:	09/25/12
DRILLED BY (Company/Driller):	MAI / S.Brown		MON. WELL NO.:	MW-B250-10
GRD. SURFACE ELEVATION:	60.70' NAVD88	ELEVATION FROM:	CHECKED BY:	T. Evans (9E505)

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0 / 4.0	1147	SILT/CLAY	Brown/Gray	(3.2-4.0) Sand (f-m)	CL / SP	Wet	S=0.0 H=0.0
18				↓	↓		↓	S=0.0 H=0.0
			SAND	Brown/Gray	(0.0-4.0) SAA		Wet	S=0.0 H=0.0
20								S=0.0 H=0.0
	4.0 / 4.0	1154						S=0.0 H=0.0
22				↓	↓	↓	↓	S=0.0 H=0.0
			EOB		Installed Monitoring Well, Set Well Screen 7-17' bgs			

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-10

Tetra Tech, Inc.

Tetra Tech Inc

BORING LOG FOR: Former NASB – Building 250 Investigation
PROJECT NO.: 112G00958 / 000.1000
LOGGED BY: B.Geringer
DRILLED BY (Company/Driller): MAI / S.Brown
GRD. SURFACE ELEVATION: 61.52' NAVD88

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-SB-B250-11
START DATE: 09/25/12
COMPLETION: DATE: 09/25/12
MON. WELL NO.: MW-B250-11
CHECKED BY: T. Evans (GES05)

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ Color	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	1.3	0906	TOPSOIL	Brown	(0.0-0.9) Sand(F-M), T-Gravel, roots	SP / GP	Dry	S=0.0 H=0.0 S=0.0 H=0.0
2	2.0		SAND; GRAVEL	↓	(0.9-1.3) Sand(F-M), Some Gravel	↓	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.1	0910		↓	(0.0-0.6) Sand(F-M); Gravel	↓	Dry	S=0.0 H=0.0 S=0.0 H=0.0
4	2.0		SAND	Dk. Brown	(0.6-1.1) Sand(F-M), T-Silt	SP	moist	S=0.0 H=0.0 S=0.0 H=0.0
	2.0	0920		Brown	(0.0-0.4) SAA	↓	↓	S=0.0 H=0.0 S=0.0 H=0.0
6	2.0			Lt. Brown	(0.4-2.0) Sand(F-M)		↓	S=0.0 H=0.0 S=0.0 H=0.0
				↓	(0.0-0.9) - SAA	↓	moist	S=0.0 H=0.0 S=0.0 H=0.0
8			SILT/SAND/ CLAY	Gray	(0.9-2.0) Silt; Sand(F); clay	SC	↓	S=0.0 H=0.0 S=0.0 H=0.0
	3.7	0925	SAND SILT/CLAY	Brown	(2.1-2.4) - Sand(F), little Silt	SP / ML	moist	S=0.0 H=0.0 S=0.0 H=0.0
10	4.0		SAND	Gray/Brown	(2.4-3.4) - Silt; clay, T-Sand (3.4-3.7) Sand(F-M)	↓ SP	wet at 3.4	S=0.0 H=0.0 S=0.0 H=0.0
			SAND	Brown	(0.0-1.5) - Sand(F-M) - Fe staining 0.9-1.5	↓	wet	S=0.0 H=0.0
12			SILT/SAND	Gray/Brown	(1.5-1.8) - Sand(F); Silt, T-Clay	SM	↓	S=0.0 H=0.0
	4.0	0930	SAND	↓	(1.8-4.0) - Sand(F), little silt	SP	wet	S=0.0 H=0.0
14	4.0			↓	↓		↓	S=0.0 H=0.0
				Gray/Brown	(0.0-1.1) - SAA		wet	S=0.0 H=0.0
16				↓	(1.1-4.0) - Sand(F-M), Mica Flakes	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG: Geoprobe 6620 DT
METHOD OF ADVANCING BORING: Direct Push technology (DPT)
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: N/A
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB-B250-11

Tetra Tech, Inc.

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	NASB-SB-B250-11
PROJECT NO.:	112G00958 / 000.1000	START DATE:	09/25/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	09/25/12
DRILLED BY (Company/Driller):	MAI / S.Brown	MON. WELL NO.:	MW-B250-11
GRD. SURFACE ELEVATION:	61.52' NAVD 88	CHECKED BY:	T. Evans (GE505)

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	4.0	0936		Brown	SAA	SP	Wet	S=0.0 H=0.0
18	4.0			↓	↓	↓	↓	S=0.0 H=0.0
			SAND	Brown/Gray	(0.0-3.1) SAA		Wet	S=0.0 H=0.0
20				↓	↓		↓	S=0.0 H=0.0
	4.0	0950					Wet	S=0.0 H=0.0
22	4.0		SILT/SAND	Brown	(3.1-4.0) - Silt & Sand(F), Fe Staining	SM	↓	S=0.0 H=0.0
			EOB		Installed monitoring well, Set Screen 11-21' bgs			
					Well installed on 09/26/12			

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-11

Tetra Tech, Inc.

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	NASB-SB-B250-12
PROJECT NO.:	112G00958 / 000.1000	START DATE:	9/25/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	9/25/12
DRILLED BY (Company/Driller):	MAI / S.Brown	MON. WELL NO.:	MW-B250-12
GRD. SURFACE ELEVATION:	61.33' NAVD88	CHECKED BY:	T. Evans (GES05)

TRANSCRIBED BY:
ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			CONCRETE		(0.0-1.0) Concrete	—		
2			SAND/GRAVEL / SILT/SAND	Brown/Black	(0.0-0.2) Sand(F-M) & Gravel (0.2-0.5) Silt & Sand(F)	GP / SM	Moist	S=0.0 H=0.0; S=0.0 H=0.0
	2.8 / 3.0	1245	SAND	Brown	(0.2-2.8) Sand(F-M)	SP	Dry	S=0.0 H=0.0; S=0.0 H=0.0
4				Lt. Brown	↓		↓	S=0.0 H=0.0; S=0.0 H=0.0
	2.0 / 2.0	1249		↓	(0.0-2.0) - SAA		Dry	S=0.0 H=0.0; S=0.0 H=0.0
6				Brown/red brown	↓ - Some Fe Staining		Moist	S=0.0 H=0.0; S=0.0 H=0.0
	1.4 / 2.0	1253		Brown	(0.0-1.4) - SAA		Wet at 0.3	S=0.0 H=0.0; S=0.0 H=0.0
8				↓	↓	↓	Wet	S=0.0 H=0.0; S=0.0 H=0.0
			SAND/SILT CLAY	Gray	(0.0-0.8) - Sand(F), interbedded silt & clay	SC		S=0.0 H=0.0
10			SAND		(0.8-2.0) - Sand(F), T-Silt	SP	↓	S=0.0 H=0.0
	4.0 / 4.0	1300			(2.0-4.0) - Sand(F-M)		Wet	S=0.0 H=0.0
12				↓	↓		↓	S=0.0 H=0.0
				Gray	(0.0-4.0) - SAA - Mica Flakes		Wet	S=0.0 H=0.0
14								S=0.0 H=0.0
	4.0 / 4.0	1306						S=0.0 H=0.0
16				↓	↓ - Installed MW, Set Screen 5-15' bgs	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	Well installed on 9/26/12

BORING NO.: SB-B250-12

Tetra Tech, Inc.

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	NASB-SB-B250-13
PROJECT NO.:	112G00958 / 000.1000	START DATE:	09/25/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	~~BG 09/25/12~~ 09/26/12
DRILLED BY (Company/Driller):	MAI / S.Brown	MON. WELL NO.:	MW-B250-13
GRD. SURFACE ELEVATION:	61.30' NAVD 88	CHECKED BY:	T.Evans (GE 505)

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			CONCRETE	—	CONCRETE	—		
2			SAND	Brown	(0.0-0.3) - Sand(F-M), little Gravel	SP	Moist	S=0.0 H=0.0 S=0.0 H=0.0
	2.5 / 3.0	1405		↓	(0.3-2.5) - Sand(F-M)		Dry	S=0.0 H=0.0 S=0.0 H=0.0
4				Lt. Brown	↓		↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.7 / 2.0	1408			(0.0-1.7) - SAA - little Fe Staining		Dry	S=0.0 H=0.0 S=0.0 H=0.0
6				↓	↓		Moist	S=0.0 H=0.0 S=0.0 H=0.0
	1.8 / 2.0	1412		Brown	(0.0-1.3) - SAA	↓	Wet	S=0.0 H=0.0 S=0.0 H=0.0
8			SILT/SAND SILT/CLAY	Gray	(1.3-1.6) - Sand(F) & Silt (1.6-1.8) - Silt & clay	SM SC	↓	S=0.0 H=0.0 S=0.0 H=0.0
			SAND/SILT		(0.0-1.6) Sand(F) & Silt	SM	Wet	S=0.0 H=0.0
10					(1.6-3.8) Sand(F-M)	SP		S=0.0 H=0.0
	3.8 / 4.0	1418	SAND					S=0.0 H=0.0
12				↓	↓		↓	S=0.0 H=0.0
				Gray	(0.0-4.0) SAA		Wet	S=0.0 H=0.0
14								S=0.0 H=0.0
	4.0	1424						S=0.0 H=0.0
16				↓	↓	↓	↓	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-13

Tetra Tech, Inc.

BORING LOG FOR:	Former NASB – Building 250 Investigation
PROJECT NO.:	112G00958 / 000.1000
LOGGED BY:	B.Geringer
DRILLED BY (Company/Driller):	MAI / S.Brown
GRD. SURFACE ELEVATION:	61.30' NAVD 88
TRANSCRIBED BY:	
ELEVATION FROM:	
BORING NO.:	NASB-SB-B250-13
START DATE:	09/25/12
COMPLETION: DATE:	BG ~~09/25/12~~ 09/26/12
MON. WELL NO.:	MW-B250-13
CHECKED BY:	T. Evans (GE505)

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
				Gray	(0.0-2.3) SAA	SP	Wet	S=0.0 H=0.0
18				↓	↓			S=0.0 H=0.0
	4.0			Brown	(2.3-4.0) - Sand(F), T-Silt; Silt lense at 2.5 & 2.6			S=0.0 H=0.0
20	4.0	1432	SAND	↓	- Silt laminations 3.4-3.6		↓	S=0.0 H=0.0
				Brown	(0.0-1.9) - SAA		Wet	S=0.0 H=0.0
22					(1.9-2.3) - Sand(F); interbedded Silt (2.3-2.7) Sand(F)	↓	↓	S=0.0 H=0.0
	4.0		SAND/SILT CLAY	↓	(2.7-3.1) - Sand(F); Silt & clay ~~(3.1-4.0) Sand(F)~~ BG	SC	Fe Staining Wet	S=0.0 H=0.0
24	4.0	1438	SAND	Gray	(3.1-4.0) - Sand(F)	SP	↓	S=0.0 H=0.0
			SAND/SILT CLAY	Gray/Brown	(0.0-0.7) - SAA	↓	Wet	S=0.0 H=0.0
26				↓	(0.7-2.0) - Silt & Clay, Some Sand(F)	SC		S=0.0 H=0.0
	4.0		SAND	Brown	(2.0-3.2) - Sand(F), little Silt	SP		S=0.0 H=0.0
28	4.0	1446	SAND/SILT		(3.2-3.7) - Sand(F) Silt (interbedded) - (3.7-4.0) Sand(F)	ML/SP	↓	S=0.0 H=0.1
			SAND		(0.0-2.1) - Sand(F)		Wet	S=0.0 H=0.2
30					(2.1-2.4) - Sand(F) & Silt	↓		S=0.0 H=0.0
	4.0		SAND/SILT		(2.4-4.0) - Sand(F)	ML/SP		S=0.0 H=0.0
32	4.0	1455	SAND	↓	↓	↓	↓ liner jammed - Switch to Macrocore	S=0.0 H=0.0

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT) / Macrocore 32-45'
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-13

Tetra Tech, Inc.

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	NASB-SB-B250-13
PROJECT NO.:	112G00958 / 000.1000	START DATE:	09/25/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	~~09/25/12~~ BG 9/26/12
DRILLED BY (Company/Driller):	MAI / S.Brown	MON. WELL NO.:	MW-B250-13
GRD. SURFACE ELEVATION:	61.30' NAVD 88	CHECKED BY:	T. Evans (GES05)

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			SAND	Brown	(0.0-1.5) - SAA	SP	Wet	S=0.0 H=0.0
34			SAND/SILT	Brown/Gray	(1.5-1.9) - Sand(F), interbedded Silt	SM		S=0.0 H=0.0
			SAND	Gray	(1.9-3.1) - Sand(F), little Silt (3.1-3.8) - Silt & Clay	SP		S=0.0 H=0.0
36			SILT/CLAY		(3.8-4.4) - Clay, T-Silt ~~(4.4-5.0) - Sand(F)~~ BG	SC / CL		S=0.0 H=0.0
	5.0		CLAY		(4.4-5.0) - Sand(F)	SP		S=0.0 H=0.0
38	5.0	1555	SAND	Gray	(0.0-2.5) - SAA		Wet	S=0.0 H=0.0
	3.0	1630			(2.5-3.0) - Clay, T-Silt			S=0.0 H=0.0
40	3.0		CLAY			CL	Wet	S=0.0 H=0.0
				Gray	(0.0-2.8) - Silt & Clay, T-Sand(F)			S=0.0 H=0.0
42			SILT/CLAY					S=0.0 H=0.0
								S=0.0 H=0.0
44			CLAY			CL		S=0.0 H=0.0
	5.0	0940			(2.8-5.0) - Clay		Moist	S=0.0 H=0.0
46	5.0	(9/26/12)	EOB					S=0.0 H=0.0
					Installed Monitoring Well, Set Screen 25-35' bgs			

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-13

Tetra Tech, Inc.

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation	
PROJECT NO.:	112G00958 / 000.1000	
LOGGED BY:	B.Geringer	TRANSCRIBED BY:
DRILLED BY (Company/Driller):	MAI / S.Brown	
GRD. SURFACE ELEVATION:	61.18' NAVD 88	ELEVATION FROM:

BORING NO.:	NASB-SB-B250-14
START DATE:	09/27/12
COMPLETION: DATE:	09/27/12
MON. WELL NO.:	MW-B250-14
CHECKED BY:	T. Evans (GE505)

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
			Concrete	Gray	Concrete Apron	—		S=0.0 H=0.1 S=0.0 H=0.1
2			Sand/Gravel	Brown	(0.0-0.6) - Sand(F-m) & Gravel	GP	Dry	S=0.0 H=0.0 S=0.0 H=0.1
	2.3 / 3.0	1250	Sand/Silt	↓	(0.6-1.6) - Sand(F), Some Silt	ML	Dry	S=0.0 H=0.2 S=0.0 H=0.1
4			Sand	Lt. Brown	(1.6-2.3) - Sand F-m	SP	↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.6 / 2.0	1255		↓	(0.0-1.4) - SAA	↓	Dry	S=0.0 H=0.1 S=0.0 H=0.1
6			Silt/Sand	Gray	(1.4-1.6) - Silt & Clay BG Sand(F)	ML	Moist	S=0.0 H=0.1 S=0.0 H=0.1
	1.4 / 2.0	1302	Sand	Brown	(0.0-1.4) - Sand(F-m), T-Sand(C)	SW	Wet	S=0.0 H=0.2
8				↓	↓		↓	S=0.0 H=0.2
				Brown	(0.0-1.5) SAA		Wet	S=0.0 H=0.1
10					↓	↓	↓	S=0.0 H=0.0
	3.0 / 4.0	1308			(1.5-3.0) - Sand(F-m)	SP	Wet	S=0.0 H=0.0
12				↓	↓	↓	↓	S=0.0 H=0.1
				Brown	(0.0-2.7) - SAA	SW	Wet	S=0.0 H=0.1
14					- Some interbedded Coarse Sand			S=0.0 H=0.1
	2.7 / 4.0	1312						S=0.0 H=0.1
16				↓	- Fe Staining	↓	↓	S=0.0 H=0.1
			EOB		Installed MW, Set Screen 4-14' bgs			

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-14

Tetra Tech, Inc.

PAGE: 1 OF 1

BORING LOG FOR:	Former NASB – Building 250 Investigation	BORING NO.:	NASB-SB-B250-15
PROJECT NO.:	112G00958 / 000.1000	START DATE:	9/26/12
LOGGED BY:	B.Geringer	COMPLETION: DATE:	9/26/12
DRILLED BY (Company/Driller):	MAI / S.Brown	MON. WELL NO.:	MW-B250-15
GRD. SURFACE ELEVATION:	61.60' NAVD 88	CHECKED BY:	T. Evans (GE 585)

TRANSCRIBED BY:

ELEVATION FROM:

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	1.4 / 2.0	1017	TOPSOIL	Dk. Brown	(0.0-0.6) - Sand(F-m), T-Silt, roots	SP	Dry	S=0.0 H=0.1 S=0.0 H=0.1
2				Brown	(0.6-1.4) - Sand(F-m), T-Gravel, Silt lens at 1.1-1.3	↓	↓	S=0.0 H=0.2 S=0.0 H=0.1
	1.3 / 2.0	1022		↓	(0.0-1.3) - Sand(F-m)		moist	S=0.0 H=0.0 S=0.0 H=0.0
4				↓	↓		↓	S=0.0 H=0.0 S=0.0 H=0.0
	1.6 / 2.0	1026		Brown	(0.0-1.6) - SAA		moist	S=0.0 H=0.0 S=0.0 H=0.0
6				↓	↓ - Fe Staining		↓	S=0.0 H=0.1 S=0.0 H=0.1
	1.6 / 2.0	1030		Brown	(0.0-0.6) - SAA. ↓		Moist	S=0.0 H=0.2 S=0.0 H=0.1
8			SAND	Brown/Gray	(0.6-1.6) - Sand(F), little Silt		Wet	S=0.0 H=0.0
	1.0 / 2.0	1036		Brown/Gray	(0.0-0.2) - SAA		Wet	S=0.0 H=0.0
10				↓	(0.2-1.0) - Sand(F-m)		↓	S=0.0 H=0.1
	/			Brown/Gray	(0.0-4.0) - SAA		Wet	S=0.0 H=0.1
12				Gray	↓ - Mica Flakes		↓	S=0.0 H=0.1
	4.0 / 4.0	1042		↓			Wet	S=0.0 H=0.2
14				↓	↓ ↓		↓	S=0.0 H=0.1
	/			Brown	(0.0-2.1) - SAA ↓		Wet	S=0.0 H=0.2
16				↓	↓	↓	↓	S=0.0 H=0.1

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB-B250-15

Tetra Tech, Inc.

Tetra Tech Inc

BORING LOG FOR:	Former NASB – Building 250 Investigation			BORING NO.:	NASB-SB-B250-15
PROJECT NO.:	112G00958 / 000.1000			START DATE:	09/26/12
LOGGED BY:	B.Geringer	TRANSCRIBED BY:		COMPLETION: DATE:	09/26/12
DRILLED BY (Company/Driller):	MAI / S.Brown			MON. WELL NO.:	MW-B250-15
GRD. SURFACE ELEVATION:	61.60' NAVD 88	ELEVATION FROM:		CHECKED BY:	T. Evans (GE505)

DEPTH (FEET)	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD./ COLOR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [(PPM)]
	3.3	1050	SILT/SAND	Brown	(2.1-2.9) - Sand(F) & Silt - Fe Staining	SM	Wet	S=0.0 H=0.1
18	4.0		SILT/CLAY	Gray	(2.9-3.3) - Silt & Clay	CL	↓	S=0.0 H=0.1
			EOB		Installed monitoring well Set Screen 5-15' bgs			

TYPE OF DRILLING RIG:	Geoprobe 6620 DT
METHOD OF ADVANCING BORING:	Direct Push technology (DPT)
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech, Inc.

BORING NO.: SB-B250-15

Tetra Tech Inc

A-2 WELL CONSTRUCTION LOGS

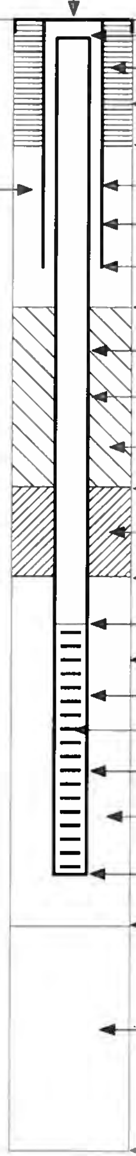
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS INC.

PROJECT NAME:	NASB-BUILDING 250 INVESTIGATION	PROJECT NO:	112G00958
PROJECT LOCATION:	BRUNSWICK, ME	WELL NO:	MW-B250-01
CLIENT:	U.S. NAVY	BORING NO:	SB-B250-01
CONTRACTOR:	MAI ENVIRONMENTAL	DRILLER:	S. BROWN
LOGGED BY:	B.GERINGER	DATE:	05/29/12
CHECKED BY:	C. Race	DATE:	07/2/12

BORING LOCATION:
386212.13 N NAD83 FT
3014582.97 E

PAGE: 1 OF 1



GROUND ELEVATION: 60.22' NAVD88

SAND DRAIN LAYER

FLUSH MOUNT PROTECTIVE CASING

LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.29
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BGS (In.)	2" ~~6"~~ BG [illegible]
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6"
I.D. OF PROTECTIVE CASING (In.)	4.0
TYPE OF PROTECTIVE CASING	ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.)	I.D.: 1.0 O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	27
DEPTH TOP OF PERVIOUS SECTION (Ft.)	29.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.)	I.D.: 1.0 O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	PREPACK SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	39.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	39.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	39.0

GENERAL NOTE:

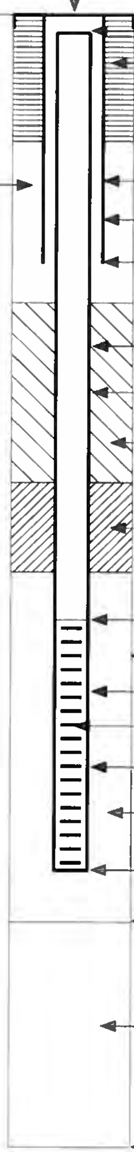
1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG — TETRA TECH NUS INC.

PROJECT NAME:	NASB - BUILDING 250 INVESTIGATION	PROJECT NO:	112G00958
PROJECT LOCATION:	BRUNSWICK, ME	WELL NO:	MW-B250-02
CLIENT:	U.S. NAVY	BORING NO:	SB-B250-02
CONTRACTOR:	MAI ENVIRONMENTAL — DRILLER: S. BROWN	BORING LOCATION:	386265.28 N NAD83 FT
LOGGED BY:	B. GERINGER — DATE: 05/29/12		3014815.23 E
CHECKED BY:	C. RACE — DATE: 7/2/12	PAGE:	1 OF 1

GROUND ELEVATION: 61.22' NAVD88

SAND DRAIN LAYER



FLUSH MOUNT PROTECTIVE CASING

LENGTH RISER PIPE BELOW GRD. SURF. (Ft.)	0.41
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BGS (In.)	BG 5/29/12 ~~6" 2"~~ 6"
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4
TYPE OF PROTECTIVE CASING	ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.)	I.D.: 1.0 O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	35.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	37.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.)	I.D.: 1.0 O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	PRE-PACK SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	47.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	47.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	47.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS INC.

PROJECT NAME:	NASB-BUILDING 250 INVESTIGATION	PROJECT NO:	112G00958
PROJECT LOCATION:	BRUNSWICK, ME	WELL NO:	MW-B250-03
CLIENT:	U.S. NAVY	BORING NO:	SB-B250-03
CONTRACTOR:	MAI ENVIRONMENTAL	DRILLER:	S. BROWN
LOGGED BY:	B. GERINGER	DATE:	05/23/12 WELL INSTALLED ON 05/24/12
CHECKED BY:	C. Race	DATE:	7/2/12

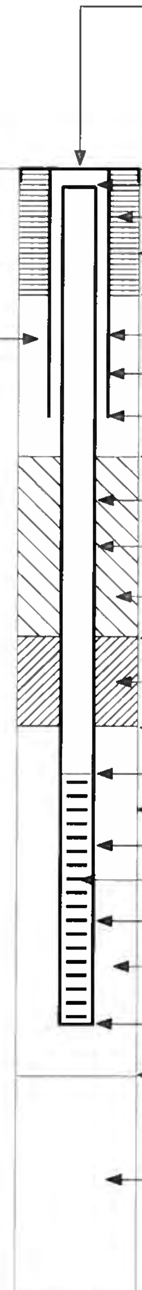
BORING LOCATION: 386217.91 N NAD83 Ft 3015001.47 E

PAGE: 1 OF 1

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 59.10' NAVD88

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.59
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BCS (In.)	6"
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4.0
TYPE OF PROTECTIVE CASING	ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	41.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	43.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND (PRE-PACK)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	53.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	53.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	53.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

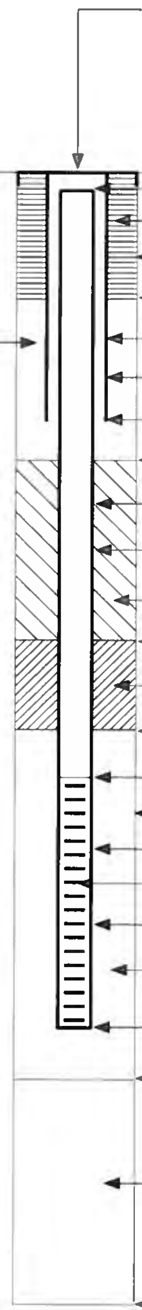
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG — TETRA TECH NUS INC.

PROJECT NAME:	NASB - BUILDING 250 INVESTIGATION	PROJECT NO:	112G00958
PROJECT LOCATION:	BRUNSWICK, ME	WELL NO:	MW-B250-04
CLIENT:	U.S. NAVY	BORING NO:	SB-B250-04
CONTRACTOR:	MAI ENVIRONMENTAL	DRILLER:	S. BROWN
LOGGED BY:	B. GERINGER	DATE:	05/25/12
CHECKED BY:	C. RACE	DATE:	7/2/12

BORING LOCATION: 386621.82 N 3015255.07 E NAD83 ft

PAGE: 1 OF 1

GROUND ELEVATION: 60.99' NAVD 88



LENGTH RISER PIPE BELOW GRD. SURF. (Ft.)	0.45
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BGS (In.)	2
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6"
I.D. OF PROTECTIVE CASING (In.)	4.0
TYPE OF PROTECTIVE CASING	8 ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.)	I.D.: 1.0 O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	14.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	16.0
DIAMETER OF BOREHOLE (In.)	4.25"
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.)	I.D.: 1.0 O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND (PRE-PACK)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	21.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	21.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	21.0

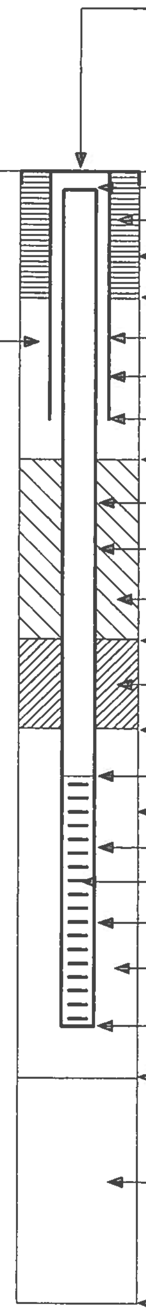
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS INC.

PROJECT NAME: NASB - BUILDING 250 INVESTIGATION		PROJECT NO:	112G00958
PROJECT LOCATION: BRUNSWICK, ME		WELL NO:	MW-B250-05
CLIENT: U.S. NAVY		BORING NO:	SB-B250-05
CONTRACTOR: MAI ENVIRONMENTAL	DRILLER: S. BROWN	BORING LOCATION:	
LOGGED BY: B. GERINGER	DATE: 05/24/12	386589.57 N NAD83 FT	
CHECKED BY: G. Race	DATE: 7/2/12	301486527 E	
		PAGE: 1 OF 1	



FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION: 61.45' NAVD88

SAND DRAIN LAYER

LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.52
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BGS (In.)	6
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4
TYPE OF PROTECTIVE CASING	ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	21.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	23.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND (PRE-PACK)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	28.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	28.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	28.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS INC.

PROJECT NAME:	NASB - BUILDING 250 INVESTIGATION	PROJECT NO:	112600958
PROJECT LOCATION:	BRUNSWICK, ME	WELL NO:	MW-B250-06
CLIENT:	U.S. NAVY	BORING NO:	SB-B250-06
CONTRACTOR:	MAI ENVIRONMENTAL	DRILLER:	S. BROWN
LOGGED BY:	B. GERINGER	DATE:	05/30/12
CHECKED BY:	C. Race	DATE:	7/2/12

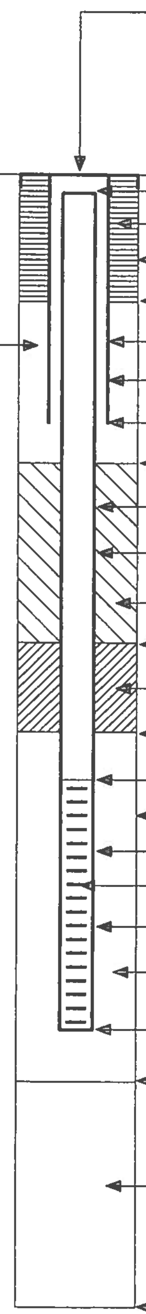
BORING LOCATION: 386153.23 N NAD83 Ft
3015023.17 E

PAGE: 1 OF 1

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION: 58.01' NAVD 88

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF. (Ft.)	0.30
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BGS (In.)	2"
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4
TYPE OF PROTECTIVE CASING	ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	41.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	43.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND (PRE-PACK)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	53.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	53.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	53.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

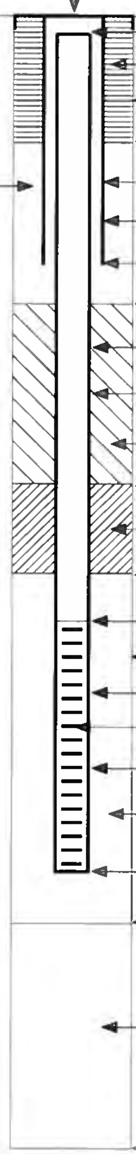
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG — TETRA TECH NUS INC.

PROJECT NAME:	NASB- BUILDING 250 INVESTIGATION	PROJECT NO:	112G00958
PROJECT LOCATION:	BRUNSWICK, ME	WELL NO:	MW-B250-07
CLIENT:	US NAVY	BORING NO:	SB-B250-07
CONTRACTOR:	MAI ENVIRONMENTAL DRILLER: S. BROWN	BORING LOCATION:	386244.48 N NAD83 Ft
LOGGED BY:	B. GERINGER DATE: 05/30/12 & 05/31/12		301533.3 E
CHECKED BY:	C. Race DATE: 7/2/12	PAGE:	1 OF 1

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 57.18' NAVD 88

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.32
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BGS (In.)	6"
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6"
I.D. OF PROTECTIVE CASING (In.)	4"
TYPE OF PROTECTIVE CASING	ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.)	I.D.: 1.0 O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	27.00
DEPTH TOP OF PERVIOUS SECTION (Ft.)	29.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.)	I.D.: 1.0 O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND- PREPACK
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	39.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	39.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	39.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS INC.

PROJECT NAME:	NASB-BUILDING 250 INVESTIGATION	PROJECT NO:	112G00958
PROJECT LOCATION:	BRUNSWICK, ME	WELL NO:	MW-B250-08
CLIENT:	U.S. NAVY	BORING NO:	SB-B250-08
CONTRACTOR:	MAI ENVIRONMENTAL	DRILLER:	S. BROWN
LOGGED BY:	B. GERINGER	DATE:	05/23/12 WELL INSTALLED ON 05/25/12
CHECKED BY:	C. Race	DATE:	7/2/12

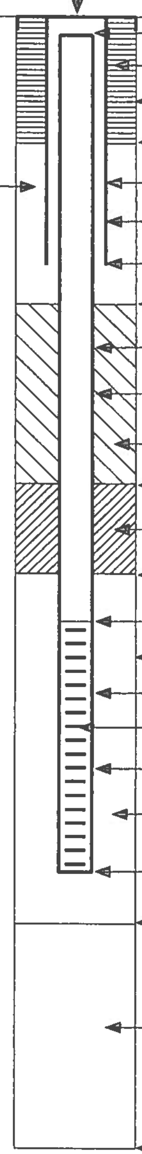
BORING LOCATION: 386120.34N NAD83 Ft 3014684.43E

PAGE: 1 OF 1

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 58.41' NAVD88

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF. (Ft.)	0.49
TYPE OF SURFACE SEAL	CONCRETE
DIA. SURFACE SEAL BGS (In.)	2"
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4
TYPE OF PROTECTIVE CASING	ALUMINUM
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	BENTONITE
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	BENTONITE
DEPTH BOTTOM OF SEAL (Ft.)	30.5
DEPTH TOP OF PERVIOUS SECTION (Ft.)	32.5
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND (PRE-PACK)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	42.5
DEPTH BOTTOM OF FILTER PACK (Ft.)	42.5
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	N/A
END OF BORING	42.5

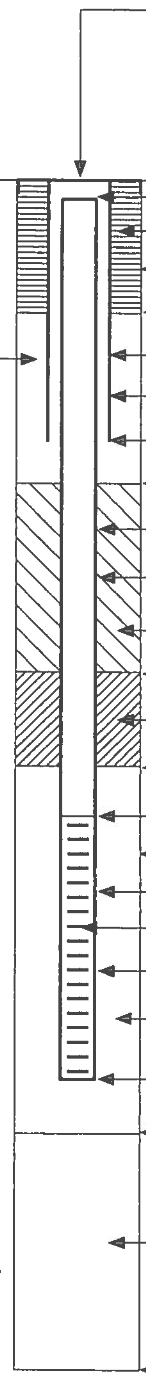
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH INC.

PROJECT NAME: Former NASB-Building 250 Investigation	PROJECT NO: 112G00958
PROJECT LOCATION: Brunswick, ME	WELL NO: MW-B250-09
CLIENT: U.S. Navy	BORING NO: NASB-SB-B250-09
CONTRACTOR: MAI Environmental DRILLER: S. Brown	BORING LOCATION:
LOGGED BY: B. Geringer DATE: 09/26/12	386240.94
CHECKED BY: T. Evans (GE505) DATE: 01/16/13	3014571.72
	PAGE: 1 OF 1



FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 60.82' MSL

SAND DRAIN LAYER

LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.17
TYPE OF SURFACE SEAL	Concrete
DIA. SURFACE SEAL BGS (In.)	2
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4.0
TYPE OF PROTECTIVE CASING	Aluminum
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite (3/4" chips)
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	Bentonite (3/4" chips)
DEPTH BOTTOM OF SEAL (Ft.)	4.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Pre-Pack Sand
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	15.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	15.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Natural Collapse
END OF BORING	17.0

Elevation Data = NAVD 88

Horizontal Data = MSPCS NAD83, West Zone

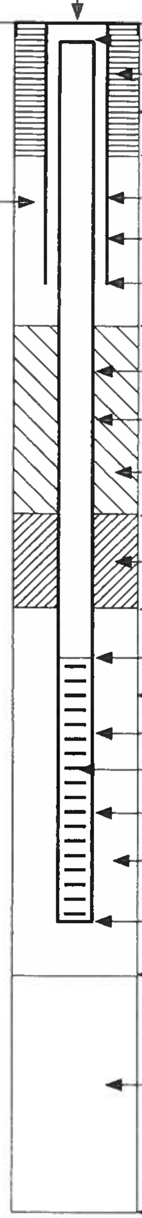
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH INC.

PROJECT NAME: Former NASB - Building 250 Investigation	PROJECT NO: 112G00958
PROJECT LOCATION: Brunswick, ME	WELL NO: MW-B250-10
CLIENT: U.S. Navy	BORING NO: NASB-SB-B250-10
CONTRACTOR: MAI Environmental — DRILLER: S. Brown	BORING LOCATION:
LOGGED BY: B. Geringer — DATE: 09/26/12	386242.99
CHECKED BY: T. Evans (GE505) — DATE: 01/16/13	3014706.10



FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION: 60.70' MSL

SAND DRAIN LAYER

LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.24
TYPE OF SURFACE SEAL	Concrete
DIA. SURFACE SEAL BGS (In.)	2
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4.0
TYPE OF PROTECTIVE CASING	Aluminum
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite (3/4" chips)
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	Bentonite (3/4" chips)
DEPTH BOTTOM OF SEAL (Ft.)	5.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	7.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	PRE-PACK SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	17.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	17.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Natural Collapse
END OF BORING	22.0

- Elevation Data: NAVD 88

Horizontal Data: MSPCS NAD83, West Zone

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

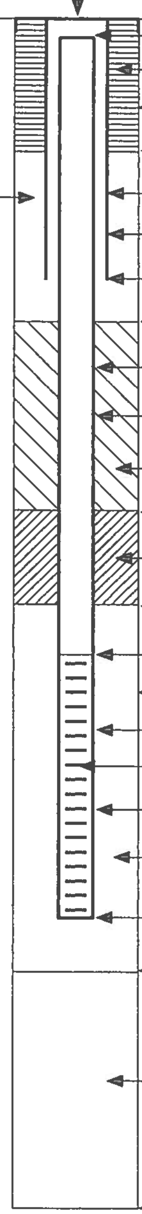
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG — TETRA TECH INC.

PROJECT NAME:	Former NASB- Building 250 Investigation	PROJECT NO:	112G00958
PROJECT LOCATION:	Brunswick, ME	WELL NO:	MW-B250-11
CLIENT:	U.S. Navy	BORING NO:	NASB-SB-B250-11
CONTRACTOR:	MAI Environmental — DRILLER: S. Brown	BORING LOCATION:	
LOGGED BY:	B. Geringer — DATE: 09/26/12		386267.73
CHECKED BY:	T. Evans (GE505) — DATE: 01/16/13		3014863.63
		PAGE:	1 OF 1

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 61.52' MSL

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.15
TYPE OF SURFACE SEAL	Concrete
DIA. SURFACE SEAL BGS (In.)	6
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	10"
TYPE OF PROTECTIVE CASING	Aluminum
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite (3/4" chips)
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	Bentonite (3/4" chips)
DEPTH BOTTOM OF SEAL (Ft.)	10.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	11.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	PRE-PACK SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	21.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	21.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Natural Collapse
END OF BORING	22.0

Elevation data: NAVD 88
Horizontal data: MSPCS NAD83, West zone

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

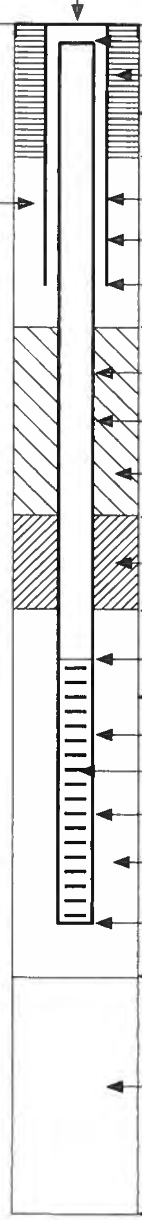
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH INC.

PROJECT NAME:	Former NASB- Building 250 Investigation	PROJECT NO:	112G00958
PROJECT LOCATION:	Brunswick, ME	WELL NO:	MW-B250-12
CLIENT:	U.S. Navy	BORING NO:	NASB-SB-B250-12
CONTRACTOR:	MAI Environmental	DRILLER:	S. Brown
LOGGED BY:	B. Geringer	DATE:	9/26/12
CHECKED BY:	T. Evans (GES05)	DATE:	01/16/13

BORING LOCATION:
386511.71
3014475.60

PAGE: 1 OF 1



FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 61.33' MSL

SAND DRAIN LAYER

LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.22
TYPE OF SURFACE SEAL	Concrete
DIA. SURFACE SEAL BGS (In.)	2
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4
TYPE OF PROTECTIVE CASING	Aluminum
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite (3/4" chips)
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	Bentonite (3/4" chips)
DEPTH BOTTOM OF SEAL (Ft.)	4.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	PRE-PACK SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	15.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	15.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Natural Collapse
END OF BORING	16.0

Elevation data: NAVD 88
Horizontal data: MSPCS NAD83, West zone

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

TtNUS Form 0058

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH INC.

PROJECT NAME:	Former NASB - Building 250 Investigation	PROJECT NO:	112G00958
PROJECT LOCATION:	Brunswick, ME	WELL NO:	MW-B250-13
CLIENT:	U.S. Navy	BORING NO:	NASB-SB-B250-13
CONTRACTOR:	MAI Environmental	DRILLER:	S. Brown
		BORING LOCATION:	
LOGGED BY:	B. Geringer	DATE:	09/26/12
CHECKED BY:	T. Evans (GE 505)	DATE:	01/16/13

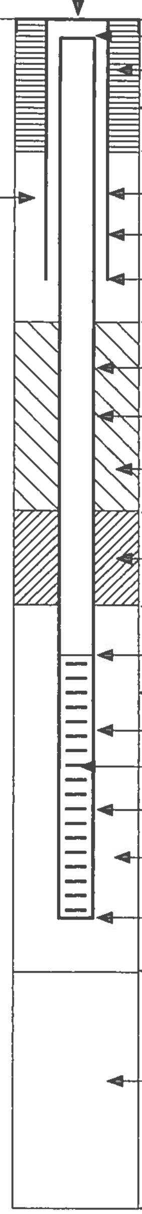
BORING LOCATION: 386514.65 / 3014487.29

PAGE: 1 OF 1

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 61.30' MSL

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)		0.39
TYPE OF SURFACE SEAL		Concrete
DIA. SURFACE SEAL BGS (In.)		2
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)		0.5
I.D. OF PROTECTIVE CASING (In.)		4.0
TYPE OF PROTECTIVE CASING		Aluminum
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)		10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)		2.0
RISER PIPE (In.)	I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE		SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE		Bentonite (3/4" chips)
DEPTH TOP OF SEAL (Ft.)		2.0
TYPE OF SEAL		Bentonite (3/4" chips)
DEPTH BOTTOM OF SEAL (Ft.)		23.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)		25.0
DIAMETER OF BOREHOLE (In.)		4.25
TYPE OF PERVIOUS SECTION		SCH 40 PVC
TYPE OF OPENINGS		10 SLOT
PERVIOUS SECTION (In.)	I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION		PRE-PACK SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)		35.0
DEPTH BOTTOM OF FILTER PACK (Ft.)		35.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK		Natural Collapse
END OF BORING		45.0

Elevation data: NAVD88

Horizontal data: MSPCS NAD83, west zone

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH INC.

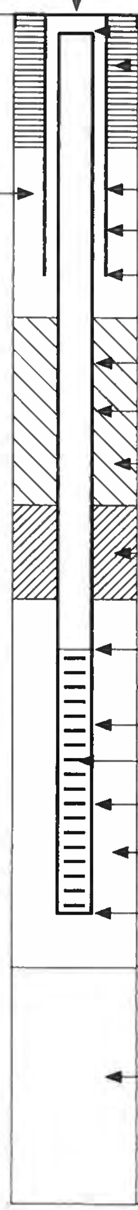
PROJECT NAME:	Former NASB - Building 250 Investigation	PROJECT NO:	112G00958
PROJECT LOCATION:	Brunswick, ME	WELL NO:	MW-B250-14
CLIENT:	U.S. Navy	BORING NO:	NASB-SB-B250-14
CONTRACTOR:	MAI Environmental	DRILLER:	S. Brown
LOGGED BY:	B. Geringer	DATE:	09/27/12
CHECKED BY:	T. Evans (GES05)	DATE:	01/16/13

BORING LOCATION:
386655.18
3014656.94

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 61.18' MSL

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.27
TYPE OF SURFACE SEAL	Concrete
DIA. SURFACE SEAL BGS (In.)	2
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4
TYPE OF PROTECTIVE CASING	Aluminum
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	1.5
RISER PIPE (In.)	I.D.: 1.0 O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite (3/4" chips)
DEPTH TOP OF SEAL (Ft.)	1.5
TYPE OF SEAL	Bentonite (3/4" Chips)
DEPTH BOTTOM OF SEAL (Ft.)	3.5
DEPTH TOP OF PERVIOUS SECTION (Ft.)	4.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.)	I.D.: 1.0 O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND (PRE-PACK)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	14.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	14.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Natural Collapse
END OF BORING	16.0

Elevation Data: NAVD 88
Horizontal Data: MSPCS NAD83, West Zone

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH INC.

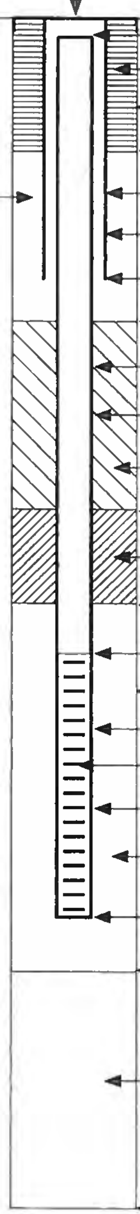
PROJECT NAME:	Former NASB - Building 250 Investigation	PROJECT NO:	112G00958
PROJECT LOCATION:	Brunswick, ME	WELL NO:	MW-B250-15
CLIENT:	U.S. NAVY	BORING NO:	NASB-SB-B250-15
CONTRACTOR:	MAI Environmental	DRILLER:	S. Brown
		BORING LOCATION:	386557.66
LOGGED BY:	B. Geringer	DATE:	09/26/12
			3014859.55
CHECKED BY:	T. Evans (GES05)	DATE:	01/16/13

PAGE: 1 OF 1

FLUSH MOUNT PROTECTIVE CASING

GROUND ELEVATION 61.60' MSL

SAND DRAIN LAYER



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.05
TYPE OF SURFACE SEAL	Concrete
DIA. SURFACE SEAL BGS (In.)	6
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	0.5
I.D. OF PROTECTIVE CASING (In.)	4.0
TYPE OF PROTECTIVE CASING	Alumnum
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	10"
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.5
TYPE OF RISER PIPE	SCH 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite (3/4" chips)
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	Bentonite (3/4" chips)
DEPTH BOTTOM OF SEAL (Ft.)	4.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5.0
DIAMETER OF BOREHOLE (In.)	4.25
TYPE OF PERVIOUS SECTION	SCH 40 PVC
TYPE OF OPENINGS	10 SLOT
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	15.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	15.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Natural Collapse
END OF BORING	18.0

Elevation Data: NAVD 88

Horizontal Data: MSPCS NAD83, West Zone

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

TtNUS Form 0058

A-3 WELL DEVELOPMENT LOGS

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-01

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
SAMPLE ID: N/A

DATE: 5/31/12
WEATHER: Sunny 70°
PERSONNEL: R Clark

Well Screen Depth: 29 / 39 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic
Pump Intake Depth:

Total Purge Volume = 3 (gal)
Data Recorded By: RC

Time	Water Level ft below top PVC	Volume ~~mL~~ Gallons	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV
0930	7.48	DTB - 38.60 Soft							
0936	pump on - tan sediment in water								
0959	7.60	1 gal	400	14.79	6.34	393	0.38	743	-189.5
1006	7.56	1 1/2	400	15.00	6.33	391	0.36	94.1	-228.9
1017	7.56	2	400	15.11	6.30	386	0.31	16.0	-208.4
1027	7.56	2 1/2	400	15.18	6.31	385	0.34	9.18	-198.4
1033	7.56	3	400	15.21	6.31	384	0.34	8.72	-211.4

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-02

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
SAMPLE ID: N/A
Total Depth: 47.03   Initial WL: 8.97

DATE: 05/31/12
WEATHER: Ptly cloudy / 70's
PERSONNEL: B. Geringer

Well Screen Depth: 37 / 47 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peristaltic / Teflon
Pump Intake Depth: Varies

Total Purge Volume = ~~2~~3.0 (gal)
Data Recorded By: B. Geringer

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV
1415	Start Pump -	Monitor	Flow					Very Silty	
1430	9.02	3000	200	18.06	6.53	364	0.65	12.06	-349.5
1440	9.02	5000	" "	17.25	5.02	353	0.26	6.54	-253.6
1450	9.02	7000		17.59	6.02	347	0.37	3.33	-326.0
1500	9.02	9000		17.30	6.06	345	0.24	7.51	-343.4
1510	9.02	11000		17.40	6.04	340	0.22	2.01	-305.2
		(2.9 Gallons)							

TtNUS Form 0013

TETRA TECH NUS, INC.	WELL DEVELOPMENT DATA SHEET	Well No.: MW-B250-03

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
SAMPLE ID: N/A

DATE: 5/30/12
WEATHER: Cloudy 55 drizzle
PERSONNEL: R Clark

Well Screen Depth: ~~44~~ 43 / ~~54~~ 53 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peristaltic
Pump Intake Depth:
DTB-52.90 Silt

Total Purge Volume = 5 (gal)
Data Recorded By: RC

Time	Water Level ft below top PVC	Volume ~~mL~~ Gallons	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV
0736	7.23	NA	NA	NA	NA	NA	NA	NA	NA
0744	Pump On - Water is Silty - brown								
0820	7.27	<3 gal	200	15.06	6.02	391	0.63	46.3	48.8
0828	7.27	3 gal	200	15.05	5.92	389	0.46	35.2	22.6
0838	7.27	3 1/4 gal	200	15.03	5.96	387	0.43	25.8	-3.2
0848	7.27	4	200	14.98	5.96	386	0.34	19.1	-3.3
0903	7.27	4 1/2	200	14.94	5.96	385	0.32	11.6	1.3
0913	7.27	4 3/4	200	14.98	5.95	384	0.29	10.95	-0.7
0925	7.27	5	200	14.96	5.95	383	0.29	8.12	-0.3

TETRA TECH NUS, INC.	**WELL DEVELOPMENT DATA SHEET**	**Well No.:** MW-B250-04

PROJECT: Former NASB - Building 250 Investigation

PROJECT NO.: 112G00958 / 0000.1000

SAMPLE ID: N/A

DATE: 5/31/12

WEATHER: Sun + clouds 60°

PERSONNEL: R Clark

Well Screen Depth: 16 / 21 ft. bgs

H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic

Pump Intake Depth: bottom

Total Purge Volume = 4 (gal)

Data Recorded By: RC

Time	Water Level ft below top PVC	Volume ~~mL~~ Gallons	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV
0757	4.87	DTB =	20.4	—	—	—	—	—	—
0805	pump on	orangish tan -	silty		—	—	—	—	—
0815	5.68	1 1/2 gal	500	12.01	2.21	354	0.68	10.04	221.2
0830	5.55	2 gal	400	12.19	3.99	355	0.37	5.16	128.7
0837	5.55	2 1/2	400	12.29	4.26	356	0.36	5.32	104.3
0842	5.55	2 3/4	400	12.30	4.51	356	0.34	3.38	71.9
0848	5.45	3	400	12.33	4.73	355	0.34	2.47	57.0
0853	5.45	3 1/4	400	12.42	4.85	354	0.34	2.15	53.6
0858	5.45	3 3/4	400	12.31	4.96	355	0.34	1.91	58.3
0903	5.45	4	400	12.39	5.06	355	0.36	1.62	53.9

TtNUS Form 0013

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-05

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
SAMPLE ID: N/A

DATE: 5/30/12
WEATHER: cloudy 70°
PERSONNEL: R Clark

Well Screen Depth: ~~25~~ 23 / 28 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic
Pump Intake Depth:

Total Purge Volume = 5 (gal)
Data Recorded By: R Clark

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV
1314	5.91	DTB - 25.80							
1321	pump on - very silty gray/tan color								
	having trouble w/ sediment clogging the tubing								
1352	7.12	1½ gal	400	12.80	6.89	434	0.34	51.7	-115.0
1402	6.80	2 gal	300	13.23	6.86	430	0.26	20.9	-110.5
1412	6.72	2½	300	13.28	6.78	427	0.26	17.6	-140.8
1422	6.62	3	200	13.50	6.84	428	0.28	18.2	-169.5
1432	6.50	3½	200	13.64	6.85	429	0.37	20.6	-185.4
1442	6.50	4	200	13.52	6.84	426	0.38	17.4	-177.5
1452	6.50	4¼	200	13.60	6.83	419	0.34	11.96	-183.7
1503	6.50	4¾	200	13.62	6.82	416	0.32	11.78	-182.9
1515	6.50	5	200	13.65	6.82	412	0.30	7.49	-189.9

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-06

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
SAMPLE ID: N/A

DATE: 06/01/12
WEATHER: Sunny, 50's
PERSONNEL: B. Geringer

Initial WL: 6.72 TD: 51.96 TD (Post development): 52.95

Well Screen Depth: 43 / 53 ft. bgs
H&S Monitoring Instrument Reading 0.3

Pump Type/Material: Peristaltic / Teflon
Pump Intake Depth: Varies

Total Purge Volume = 4.2 (gal)
Data Recorded By: B. Geringer

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV	
0820	Start Pump-	remove Fines								
0830	6.85	2000	200	14.41	6.72	244	0.90	1441 AU	-296.1	Brown/cloudy
0840	6.82	4000	" "	14.33	3.04	243	0.40	1412 AU	-126.8	" "
0850	6.82	6000		14.51	4.76	244	0.38	67.4	-139.3	Slight Cloudy
0900	6.82	8000		14.56	5.38	244	0.31	46.0	-165.4	
0910	6.82	10000		14.57	5.64	242	0.27	22.0	-36.4	Clear/colorless
0920	6.82	12000		14.83	5.85	243	0.29	14.7	-27.5	
0930	6.82	14000		15.00	6.03	246	0.25	9.58	-30.7	
0940	6.82	16000		15.04	6.16	246	0.22	5.97	-59.6	

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-07

PROJECT: Former NASB - Building 250 Investigation

PROJECT NO.: 112G00958 / 0000.1000

SAMPLE ID: N/A

Initial WL: 6.03 TD: 38.72 TD (Post Development): 38.75

DATE: 06/01/12

WEATHER: Sunny 60's

PERSONNEL: B. Geringer

Well Screen Depth: 29 / 39 ft. bgs

H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peristaltic / Teflon

Pump Intake Depth: Varies

Total Purge Volume = 2.6 (gal)

Data Recorded By: B. Geringer

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV	
1000	Turn on Pump-	Remove Fines								
1010	6.18	2000	200	13.66	6.52	251	0.90	85.4	-252.3	little cloudy
1020	6.15	4000	" "	13.51	3.70	236	0.52	15.4	-141.6	Clear/colorless
1030	6.15	6000		13.61	5.14	225	0.45	20.7	-200.0	" "
1040	6.15	8000		14.04	5.60	217	0.39	7.77	-161.4	
1050	6.15	10000		14.16	5.92	215	0.36	7.32	-138.7	

TETRA TECH NUS, INC.	WELL DEVELOPMENT DATA SHEET	Well No.: MW-B2SD-08

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 / 0000.1000
SAMPLE ID: N/A

DATE: 5/30/12
WEATHER: Cloudy, cool 60°
PERSONNEL: R Clark

Well Screen Depth: 32.5 / 42.5 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic
Pump Intake Depth:

Total Purge Volume = 4.5 (gal)
Data Recorded By: R Clark

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP/Eh3 mV
1036	5.97	DTB = 42.20							
1042	pump on. lots of brown sediment								
1107	6.05	2 1/4 gal	400	13.29	3.66	416	0.66	15.6	105.8
1123	6.07	3	400	13.23	5.43	411	0.32	11.5	-30.1
1133	6.07	3 1/2	200	13.76	5.72	411	0.38	6.57	-10.6
1143	6.03	4	200	13.81	5.82	409	0.36	4.92	-14.6
1153	6.03	4 1/2	200	13.80	5.90	410	0.36	NA	-19.1

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-09

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 0000.1000
SAMPLE ID: N/A
Initial WL = 8.87 TD = 14.66'

DATE: 9/27/12
WEATHER: Sunny 60's
PERSONNEL: Gary Glennon

Well Screen Depth: 5 / 15 ft. bgs
H&S Monitoring Instrument Reading

Pump Type/Material: Peristaltic/Teflon
Pump Intake Depth: Various

Total Purge Volume = 4 (gal)
Data Recorded By: Gary Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~BG Comments~~ ORP/Eh3 MV
1337	Start pump ~ remove fines					~~131~~	~~3.22~~		
1343	8.90	800	350	19.64	6.25	131	3.22	18.6	-88.0
1355	8.91			19.05	6.20	123	0.32	16.7	-96.3
1405	8.91	7000		19.01	6.18	122	0.28	3.22	-123.6
1415	8.91			19.35	6.16	123	0.26	16.2	
1425	8.91		320	19.17	6.17	122	0.23	3.02	-105.9
1435	8.92	15000		18.97	6.15	121	0.27	3.26	-46.7
1437	stop pump								

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-10

PROJECT: Former NASB - Building 250 Investigation

PROJECT NO.: 112G00958 0000.1000

SAMPLE ID: N/A

Initial WL = 9.65'   TD = 16.80'

DATE: 9/27/12

WEATHER: Sunny 60's

PERSONNEL: Gary Glennon

Well Screen Depth: 7 / 17 ft. bgs

H&S Monitoring Instrument Reading

Pump Type/Material: Peristaltic/Teflon

Pump Intake Depth: Various

Total Purge Volume = 2.75 (gal)

Data Recorded By: Gary Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ BG ORP/Eh3 MV
1502	start pump - remove fines								
1514	9.75	1000	300	17.75	6.18	212	6.58	12.7	291.2
1524	9.75			17.24	6.00	211	4.57	3.28	229.3
1534	9.74	~7000		17.40	5.99	209	4.23	3.25	201.7
1544	9.74	11000		17.15	6.02	214	4.76	1.76	245.1
1546	Stop pump								

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-11

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 0000.1000
SAMPLE ID: N/A
Initial WL = 10.85 TD = 20.60'

DATE: 9/28/12
WEATHER: Partly Sunny 50's
PERSONNEL: Gary Glennon, Brian Beringer

Well Screen Depth: 11 / 21 ft. bgs
H&S Monitoring Instrument Reading 0.9

Pump Type/Material: Peristaltic/Teflon
Pump Intake Depth: Various

Total Purge Volume = 3.3 (gal)
Data Recorded By: [signature]

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ BG ORP/Eh3 MV
0848	start pump - clean fines								
0856	10.88	01500	320	16.22	7.22	170	1.34	17.6	40.3
0906				16.65	6.65	168	0.69	4.77	-102.2
0916	10.88		300	16.86	6.61	170	0.47	4.11	-248.5
0926	10.88	about 12000		16.75	6.51	168	0.33	3.85	-138.5
0936	10.88	12000		16.64	6.62	170	0.57	2.91	-231.9
0938	stop pump								

TETRA TECH NUS, INC. | **WELL DEVELOPMENT DATA SHEET** | **Well No.:** MW-B250-12

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 0000.1000
SAMPLE ID: N/A
DATE: 9/27/12
WEATHER: Sunny 50s
PERSONNEL: Gary Glennon

Initial WL = 6.96 TD = 14.65'

Well Screen Depth: 5 / 15 ft. bgs
H&S Monitoring Instrument Reading 0.0
Pump Type/Material: Peristaltic/Teflon
Pump Intake Depth: Various
Total Purge Volume = 3.75 (gal)
Data Recorded By: Gary Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ BG ORP/Eh3 mV
1139	start pump - remove fines								
1146	7.00		380	16.05	6.68	161	4.30	9.92	204.2
1156	7.00			16.55	6.50	141	2.81	2.36	185.2
1206	6.99	~8,000	300	16.62	6.50	148	3.50	1.71	200.2
1216	6.98			16.60	6.48	146	3.30	1.11	202.9
1226	6.98			16.55	6.50	148	3.27	1.48	179.2
1228	stop pump	14000							

TETRA TECH NUS, INC.	WELL DEVELOPMENT DATA SHEET	Well No.: MW-B250-13

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 0000.1000
SAMPLE ID: N/A
Initial WL = 5.84' TD= 34.54

DATE: 9/27/12
WEATHER: Sunny 60°
PERSONNEL: Gary Shennon

Well Screen Depth: 25 / 35 ft. bgs
H&S Monitoring Instrument Reading 0.2 ppm

Pump Type/Material: Peristaltic / Teflon
Pump Intake Depth: Varies

Total Purge Volume = 3.5 (gal)
Data Recorded By: Gary Shennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~BG Comments~~ ORP/Eh3 MV
1038	start pump - remove fines								
1044	5.97	600		13.05	6.50	349	0.98	623 AU	
1049	5.98		350	12.47	6.40	350	0.42	51.3 NTU	33.5
1102	5.98	7000	300	12.38	6.39	353	0.30	3.50	23.3
1112	5.95	10,000		12.36	6.45	347	0.27	9.7	-57.0
1122	5.95	13,000		12.35	6.43	348	0.25	8.64	-84.2
1124	pump off 13,500 final volume								

TtNUS Form 0013

TETRA TECH NUS, INC. | **WELL DEVELOPMENT DATA SHEET** | **Well No.:** MW-B250-14

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 0000.1000
SAMPLE ID: N/A
Initial WL = 6.14

DATE: 9/28/12
WEATHER: cloudy 50's showers
PERSONNEL: Gary Glennon

Well Screen Depth: 4 / 14 ft. bgs
H&S Monitoring Instrument Reading 0.9

Pump Type/Material: Peristaltic/Teflon
Pump Intake Depth: Various

Total Purge Volume = 4.6 (gal)
Data Recorded By: Gary Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~BG Comments~~ ORP/Eh3 MV
1014	start pump - remove fines								
1019	6.15	2000	300	16.86	6.37	217	3.85	112	-100.1
1029	6.14			17.02	6.19	216	0.64	17.9	-178.1
1039	6.14		280	17.01	6.17	211	0.60	35.2	-161.3
1049	6.15	about 10000	300	17.34	6.17	198	0.78	7.35	-146.5
1059	6.15			16.88	6.17	219	0.41	6.79	-154.9
1109	6.15			17.02	6.26	205	3.38	12.82	-28.6
1119	6.15	about 18000		17.49	6.14	198	0.87	4.47	-120.2
1120	stop pump								

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-B250-15

PROJECT: Former NASB - Building 250 Investigation
PROJECT NO.: 112G00958 0000.1000
SAMPLE ID: N/A
Initial WL: 7.46' TD: 14.58

DATE: 09/27/12
WEATHER: Mostly Sunny, 50's
PERSONNEL: B. Geringer

Well Screen Depth: 5 / 15 ft. bgs
H&S Monitoring Instrument Reading 0.1

Pump Type/Material: Peristaltic / Teflon
Pump Intake Depth: Varies

Total Purge Volume = ≈4.0 (gal)
Data Recorded By: B. Geringer

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~BG Comments~~ ORP/Eh3 MV	Comments
0908	- Start Pump -	remove Fines -								Brown
0910	-	600	300							
0915	8.57	2100	" "	15.41	6.19	290	0.48	97.6	78.4	Cloudy
0925	8.57	5100	↓	15.52	6.14	286	0.39	17.2	68.4	Clear/colorless
0935	8.57	8100		15.42	6.12	285	0.30	16.4	59.6	" "
0945	8.57	11100		15.39	6.12	286	0.27	5.40	48.8	↓
0955	8.57	14100	↓	15.41	6.13	284	0.24	2.97	39.8	

A-4 LOW-FLOW PURGE DATA/GROUNDWATER SAMPLE LOGS

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: MW-B250-01-0612

Tetra Tech NUS Charge No. 112G00958 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈34 ft bgs Screen Int. Depth 29-39 ft bgs
Sample Date & Time: 06/07/2012 1140 hours N/A (Dup Time)
Sampler(s): B.Geringer Initial WL: 7.09 TD: 38.68

Field Instrument Group A / B / C / D (refer to site logbook for details) Blue

Sample Analyses:
1. TCL VOCs 2. VPH 3. EPH 4. TAL Metals

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ ML	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1045	—			Initiate purge; check drawdown; adjust flow rate							
1050	7.09	65 PSI	100	Fill flow-through cell / monitor parameter readings							
1055	7.09	" "	" "	1000	15.42	292	6.60	75.0	12.61	17.3	Slightly cloudy
1105	7.09			2000	15.18	295	6.42	14.0	0.94	13.7	Clear/Colorless
1115	7.09			3000	15.12	294	6.40	11.1	0.74	7.02	" "
1125	7.09			4000	15.85	299	6.36	11.4	0.67	4.53	
1130	7.09			4500	15.97	301	6.34	12.8	0.61	3.41	
1135	7.09			5000	16.05	303	6.34	13.9	0.61	2.56	
				(1.3 Gallons)							
	Reached	Stabilization,	Collect Sample								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)
(1" Screen = 0.041 gal/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: MW-B250-02-0612

Tetra Tech NUS Charge No. 112G00958 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈42 ft bgs Screen Int. Depth 37-47 ft bgs
Sample Date & Time: 06 / 07 /2012 1520 hours N/A (Dup Time)
Sampler(s): B.Geringer Initial WL: 8.51 TD: 47.03

Field Instrument Group A / B / C / D (refer to site logbook for details) Blue

Sample Analyses:
1. TCL VOCs 2. VPH 3. EPH 4. TAL Metals

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ mL	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1300		65 PSI		Initiate purge; check drawdown; adjust flow rate							
1310	8.50	" "	50 *	Fill flow-through cell / monitor parameter readings							
1320	8.50		" "	500	17.49	329	6.27	-8.9	1.37	52.7	little Cloudy
1340	8.50	Restart	Pump --								Pull-Pump to inspect
1350	8.50	65 PSI	100	1500	18.15	329	6.22	-11	1.89	161	Cloudy
1400	8.50	" "	" "	2500	17.80	327	6.19	-9.0	1.07	52	little Cloudy
1410	8.50			3500	17.71	326	6.17	-4.2	0.96	72	" "
1420	8.50			4500	17.63	326	6.16	-3.9	0.69	45.3	" "
1430	8.50			5500	17.66	325	6.15	-1.7	0.55	24.4	Sl. Cloudy
1440	8.50			6500	17.51	323	6.14	-3.3	0.46	18.0	" "
1450	8.50			7500	17.52	323	6.14	-3.7	0.40	17.5	" "
1500	8.50			8500	17.61	323	6.14	-3.3	0.36	12.8	Clear/colorless
1505	8.50			9000	17.45	322	6.13	-3.0	0.34	11.60	" "
1510	8.50			9500	17.29	321	6.12	-2.5	0.34	11.06	↓
1515	8.50	↓	↓	10000	17.31	321	6.13	-2.8	0.33	11.20	
				(2.6 Gallons)							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)
(1" Screen = 0.041 gal/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

*= pump ~~does not~~ not discharging at every cycle, Control box problem? switched out Control box, no solutions. After inspecting Pump, screen seemed clogged, Cleaned screen, re-inserted pump

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: MW-B250-03-0612

Tetra Tech NUS Charge No. 112G00958 Page 1 of 1
QC: MW-B250-DUP01-060612 (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: 48 ft bgs Screen Int. Depth 43-53 ft bgs
Sample Date & Time: 6/6/2012 1000 hours — ~~(Dup Time)~~
Sampler(s): R Clark

Field Instrument Group A / B / C / D (refer to site logbook for details) pink

Sample Analyses:
1. TCL VOCs **2.** VPH **3.** EPH **4.** TAL Metals

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0850	pump	on		Initiate purge; check drawdown; adjust flow rate							
				Fill flow-through cell / monitor parameter readings							
0908	6.60	55psi	120	1/2	14.25	377	6.09	55.1	0.71	73.8	
0920	6.60	55	120	2/3	14.41	373	6.02	31.9	0.53	36.5	
0930	6.60	55	120	3/4	14.47	372	6.01	23.7	0.44	16.1	
0945	6.60	55psi	120	1	14.68	372	6.00	6.4	0.36	6.31	
0950	6.60	55psi	120	1 1/5	14.75	372	6.01	-0.1	0.35	4.39	
0955	6.60	55psi	120	1 2/5	14.77	372	6.00	-3.7	0.34	3.76	
Acceptance Criteria:	<0.3 ft (drawdown)				3%	3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

(1" Screen = 0.041 gal/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

6.60

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: MW-B250-04-0610

Tetra Tech NUS Charge No. 112G00958 Page 1 of 1
QC: ______ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: 19 ft bgs Screen Int. Depth 16-21 ft bgs
Sample Date & Time: 6/7/2012 1245 hours ______ ~~(Dup Time)~~
Sampler(s): R Clark

Field Instrument Group A / B / C / D (refer to site logbook for details) Pink

Sample Analyses:
1. TCL VOCs **2.** VPH **3.** EPH **4.** ~~TAL Metals~~

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
—	—	—	—	Initiate purge; check drawdown; adjust flow rate							
1100	4.47			Fill flow-through cell / monitor parameter readings							
1110	pump	on									
1125	4.70	50psi	130	1/5	13.37	383	6.25	5.3	0.76	45.1	
1140	4.70	↓	130	1/3	13.03	384	6.17	-15.1	0.41	45.3	
1150	4.70		130	1/2	13.00	384	6.16	-28.8	0.38	31.6	
1200	4.70		130	3/4	12.95	384	6.15	-37.1	0.33	26.3	
1210	4.70		130	4/5	13.06	384	6.16	-45.1	0.32	24.0	
1220	4.70		130	1	12.98	385	6.16	-52.9	0.31	19.6	
1230	4.70		130	1 1/4	12.93	385	6.15	-58.7	0.30	18.0	
1240	4.70		130	1 1/2	12.97	385	6.16	-63.7	0.28	18.2	
1245	4.70		130	1 2/3	12.95	385	6.15	-60.8	0.29	18.7	

Acceptance Criteria: <0.3 ft (drawdown) 3% 3% +/- 0.5 S.U. +/- 10mV 10% (>2 mg/L) +/- 0.5 mg/L (<2mg/L) 10% (>5 NTUs)

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.20 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)
(1" Screen = 0.041 gal/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: ~~MW05~~ MW-B250-05-0612

Tetra Tech NUS Charge No. 112G00958 Page 1 of 1
QC: ______________ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: 26 ft bgs Screen Int. Depth 23-28 ft bgs
Sample Date & Time: 6/7/2012 1005 hours ______ ~~(Dup Time)~~
Sampler(s): R Clark

Field Instrument Group A / B / C / D (refer to site logbook for details) Pink

Sample Analyses:
1. TCL VOCs **2.** VPH **3.** EPH **4.** ~~TAL Metals~~

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0741	5.49	pump on		Initiate purge; check drawdown; adjust flow rate							
				Fill flow-through cell / monitor parameter readings							
0751	5.85	50psi	130	1/5	12.44	405	5.79	28.5	0.76	1053	tan/silty
0805	5.85		130	1/4	12.29	402	6.42	-24.5	0.45	94	
0815	5.85		130	1/3	12.13	403	6.44	-35.3	0.31	37	
0830	5.85		130	1/2	12.18	401	6.50	-48.5	0.27	78.6	
0845	5.85		130	2/3	12.24	402	6.53	-60.3	0.24	55.0	
0900	5.85		130	3/4	12.16	401	6.56	-69.3	0.23	60.8	
0915	5.85		130	1	12.19	402	6.59	-74.4	0.20	44.1	
0930	5.85		130	1 1/2	12.40	402	6.64	-82.7	0.19	36.5	
0945	5.85		130	2	12.51	402	6.65	-87.6	0.18	35.5	
1000	5.85		130	2 1/2	12.56	402	6.68	-91.5	0.17	33.9	
1005	5.85		130	2 3/4	12.57	401	6.67	-93.1	0.17	37.1	2hrs - collect sample
Acceptance Criteria:	<0.3 ft (drawdown)				3%	3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.2 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)
(1" Screen = 0.041 gal/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: MW-B250-06-0612

Tetra Tech NUS Charge No. 112G00958 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈48 ft bgs Screen Int. Depth 43-53 ft bgs
Sample Date & Time: 06/08/2012 0855 hours N/A (Dup Time)
Sampler(s): B.Geringer Initial WL: 6.15 TD: 52.95

Field Instrument Group A / B / C / D (refer to site logbook for details) Blue

Sample Analyses:
1. TCL VOCs 2. VPH 3. EPH 4. TAL Metals

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ mL	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0750	6.17	65 PSI	100	Initiate purge; check drawdown; adjust flow rate							
0800	6.17	" "	" "	Fill flow-through cell / monitor parameter readings							
0810	6.17			2000	13.47	264	6.34	-5.2	0.77	61.8	little cloudy
0820	6.17			3000	13.49	264	6.33	-1.3	0.70	29.7	Slightly cloudy
0830	6.17			4000	13.53	261	6.31	-1.9	0.56	16.2	clear/colorless
0840	6.17			5000	13.60	261	6.30	-1.4	0.49	10.50	" "
0845	6.17			5500	13.61	261	6.30	-1.5	0.46	6.08	
0850	6.17			6000	13.63	261	6.29	-1.3	0.39	4.62	
				(1.6 Gallons)							
	Reached Stabilization, collect Sample										
Acceptance Criteria:	<0.3 ft (drawdown)				3%	3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)
(1" Screen = 0.041 gal/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: MW-B250-07-0612

Tetra Tech NUS Charge No. 112G00958
Page 1 of 1
QC: MS/MSD (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: 34 ft bgs   Screen Int. Depth 29-39 ft bgs
Sample Date & Time: 6/8/2012 0920 hours   ______(Dup Time)
Sampler(s): R. Clark

Field Instrument Group A / B / C / D (refer to site logbook for details) Pink

Sample Analyses:
1. TCL VOCs 2. VPH 3. EPH 4. TAL Metals → used 0.45 micron filter

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
				Initiate purge; check drawdown; adjust flow rate							
0750	5.47	pump	on —	Fill flow-through cell / monitor parameter readings							
0810	5.47	50 psi	120	1/4	12.72	322	4.89	-138.7	1.30	78.0	
0820	5.47		120	1/2	12.75	316	5.68	-179.4	0.53	47.6	
0830	5.47		120	2/3	12.76	315	5.79	-170.9	0.42	17.4	
0840	5.47		120	3/4	12.81	316	5.86	-157.8	0.35	10.94	
0850	5.47		120	1	12.86	316	5.89	-145.7	0.36	9.45	
0900	5.47		120	1 1/4	12.84	315	5.92	-141.6	0.30	7.05	
0910	5.47		120	1 1/3	12.82	314	5.95	-147.3	0.27	5.58	
0915	5.47	50 psi	120	1 1/2	12.83	314	5.95	-149.3	0.25	5.46	

Acceptance Criteria: <0.3 ft (drawdown) — Temp 3%; Spec. Cond. 3%; pH +/- 0.5 S.U.; ORP +/- 10mV; DO 10% (>2 mg/L), +/- 0.5 mg/L (<2mg/L); Turbidity 10% (>5 NTUs)

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)
(1" Screen = 0.041 gal/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick- Building 250 Investigation
Sample ID: MW-B250-08-0612

Tetra Tech NUS Charge No. 112G00958 Page 1 of 1
QC: ______ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: 38 ft bgs Screen Int. Depth 33-43 ft bgs
Sample Date & Time: 6/6/2012 1345 hours ______(Dup Time)
Sampler(s): R Clark

Field Instrument Group A / B / C / D (refer to site logbook for details) Pink

Sample Analyses:
1. TCL VOCs 2. VPH 3. EPH 4. TAL Metals

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1222	5.52	pump	On	Initiate purge; check drawdown; adjust flow rate							
~~1233~~	~~5.52~~	~~60psi~~	—	Fill flow-through cell / monitor parameter readings							
1233	5.52	50psi	120	~~1/5~~	14.89	356	6.29	-45.8	1.00	28.0	
1245	5.52		120	2/5	14.72	369	6.28	-69.7	0.57	16.6	
1300	5.52		120	1/2	14.76	375	6.27	-87.4	0.37	8.70	
1310	5.52		120	3/5	14.59	375	6.26	-92.6	0.33	9.74	
1320	5.52		120	3/4	14.87	376	6.26	-98.7	0.30	7.88	
1330	5.52		120	1	14.84	378	6.28	-104.0	0.30	6.63	
1335	5.52		120	1 1/5	14.68	378	6.26	-109.2	0.29	6.62	
1340	5.52		120	1 2/5	14.58	378	6.24	-111.1	0.28	6.16	

Acceptance Criteria: <0.3 ft (drawdown) 3% 3% +/- 0.5 S.U. +/- 10mV 10% (>2 mg/L) +/- 0.5 mg/L (<2mg/L) 10% (>5 NTUs)

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)
(1" Screen = 0.041 gal/Ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-01-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: MW-B250-DUP01-100212 (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ~34 ft bgs Screen Int. Depth 29-39 ft bgs
Sample Date & Time: 10/2/2012 0925 hours 0930 (Dup Time)
Sampler(s): P. Seward

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs ; EDB
8.09' ft below top of pvc = Static WL

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0830	8.09	4CPM/240psi	80	Initiate purge; check drawdown; adjust flow rate							
		"		Fill flow-through cell / monitor parameter readings							
0835	8.10	"	80		17.22	344	6.79	144.2	7.33	65	cloudy
0840	8.08	"	80		16.89	341	6.47	123.8	1.40	60	cloudy
0845	8.08	"	80		16.65	345	6.41	121.0	0.82	19	clear-colorless
0850	8.08	"	80		16.96	347	6.42	116.1	0.81	11	" "
0855	8.10	"	80		16.83	347	6.43	114.0	0.71	9.8	" "
0900	8.10	"	80		16.68	348	6.41	113.9	0.68	8.4	" "
0905	8.10	"	80		16.94	347	6.41	113.9	0.60	6.3	" "
0910	8.10	"	80	1.0	16.86	348	6.42	109.8	0.52	3.6	" "
0915	8.10	"	80		16.57	349	6.42	105.9	0.50	3.0	" "
0920	8.10	"	80		16.65	348	6.41	107.9	0.48	3.2	" "
				purge complete - collect sample							
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-02-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈42 ft bgs Screen Int. Depth 37-47 ft bgs
Sample Date & Time: 10 /02 /2012 0945 hours — (Dup Time)
Sampler(s): B. Geringer Initial WL: 9.52

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs 2. EDB

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0825	9.52	40 PSI/4 CPM	70	Initiate purge; check drawdown; adjust flow rate							Cloudy
0830	" "	" "	" "	Fill flow-through cell / monitor parameter readings							" "
0840					16.68	360	6.32	92.8	2.30	103.8	
0850					17.01	361	6.30	100.5	1.36	53.0	little cloudy
0900					17.10	362	6.30	98.0	0.90	42.1	" "
0910					17.14	362	6.31	94.3	0.73	27.4	Slightly cloudy
0920		42 PSI/4 CPM	75		17.26	363	6.30	101.9	0.48	27.0	" "
0930		" "	" "		17.18	362	6.31	107.2	0.37	19.7	
0937					17.18	362	6.31	111.1	0.32	18.4	Clear/colorless
0944				1.5	17.34	362	6.31	115.6	0.29	18.0	
	Reached Stabilization -		Collect Sample								
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-03-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ~48.0 ft bgs Screen Int. Depth 43-53 ft bgs
Sample Date & Time: 10/1/2012 1500 hours NA (Dup Time)
Sampler(s): P. Seward

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs (3 40-mL vials) EDB- (2-40 mL vials)
7.72' ~~bgs~~ btoPVC JB = WL before pump insertion; 7.75' b top of pvc after pump insert

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1405	7.75	4CPM/40psi	85	Initiate purge; check drawdown; adjust flow rate							
		"		Fill flow-through cell / monitor parameter readings							
1415	7.75	"	85		16.93	319	6.10	90.8	3.84	offscale	cloudy
1420	7.75	"	85		16.73	316	6.08	103.6	1.38	250	cloudy
1425	7.75	"	85		16.65	316	6.08	109.6	1.19	100	cloudy
1430	7.75	"	85		16.68	316	6.07	113.4	1.06	50	cloudy
1435	7.75	"	85		16.71	316	6.07	116.1	0.94	28	clear-colorless
1440	7.75	"	85	0.5	16.59	317	6.07	117.9	0.85	16	clear-colorless
1445	7.75	"	85		16.42	316	6.08	116.3	0.83	6.0	clear-colorless
1450	7.75	"	85		16.32	316	6.06	118.8	0.80	6.0	clear-colorless
1455	7.75	"	85		16.26	315	6.05	120.0	0.78	5.6	clear-colorless
				purge complete- collect sample							

Acceptance Criteria: <0.3 ft (drawdown) — Temp +/- 3% — Spec. Cond. +/- 3% — pH +/- 0.5 S.U. — ORP +/- 10mV — DO 10% (>2 mg/L), +/- 0.5 mg/L (<2 mg/L) — Turbidity 10% (>5 NTUs)

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-04-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈ 18.5 ft bgs Screen Int. Depth 16-21 ft bgs
Sample Date & Time: 10 / 02 /2012 1153 hours — (Dup Time)
Sampler(s): B. Geringer Initial WL: 5.48

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs 2. EDB

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1037	5.48	30 PSI/4CPM	70	Initiate purge; check drawdown; adjust flow rate							
1040	5.48	" "	" "	Fill flow-through cell / monitor parameter readings							
1050	5.48				17.38	326	5.95	197.5	0.82	25.8	Sl Cloudy
1100	" "				16.93	323	5.97	202.6	0.54	19.7	" "
1110					16.75	323	5.98	205.8	0.50	15.1	Clear/colorless
1117					16.87	323	5.96	209.9	0.46	12.8	" "
1124					16.94	323	5.95	214.0	0.39	14.7	
1131					16.72	323	5.96	214.8	0.35	15.2	
1138					16.68	323	5.97	216.7	0.34	11.9	
1145					16.74	323	5.98	218.2	0.33	10.84	
1152				≈1.25	16.78	323	5.99	219.2	0.31	10.98	
	Reached	Stabilization	- Collect	Samples							
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.20 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-05-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: ______ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ~25.5 ft bgs Screen Int. Depth 23-28 ft bgs
Sample Date & Time: 10/2/2012 1230 hours NA (Dup Time)
Sampler(s): P. Seward

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs ; EDB

initial water level 6.41' b top of pvc

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1040	6.41	4CPM/40psi	80	Initiate purge; check drawdown; adjust flow rate							
		"		Fill flow-through cell / monitor parameter readings							
1045	6.65	"	80		18.11	345	6.64	5.8	2.86	offscale	cloudy-brown
1050	6.68	"	80		17.86	347	6.58	-5.3	0.93	950	" "
1100	6.70	"	80		16.83	343	6.58	-18.1	0.54	820	" "
1105	6.72	"	80		16.68	344	6.60	-19.7	0.43	280	" "
1110	6.72	"	80		16.70	343	6.61	-23.3	0.43	200	" "
1115	6.70	"	80		17.06	345	6.62	-27.1	0.50	150	" "
1120	6.70	"	80		16.39	345	6.61	-27.7	0.40	130	" "
1125	6.70	"	80	1.0	16.25	343	6.57	-28.4	0.36	110	" "
1130	6.70	"	80		16.26	344	6.57	-29.5	0.40	90	cloudy-tan
1135	6.70	"	80		16.27	343	6.57	-30.8	0.34	75	" "
1145	6.70	"	80		16.44	344	6.58	-33.8	0.30	60	" "
1155	6.70	"	80	2.0	16.74	344	6.64	-39.8	0.26	45	" "
1205	6.70	"	80		16.64	344	6.67	-45.9	0.26	35	clear colorless
1215	6.70	"	80		16.42	344	6.68	-49.9	0.24	31	" "
1220	6.70	"	80		16.39	344	6.67	-50.3	0.25	30	" "
1225	6.70	"	80		16.46	344	6.67	-50.8	0.25	32	" "

Acceptance Criteria: <0.3 ft (drawdown) +/- 3% +/- 3% +/- 0.5 S.U. +/- 10mV 10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L) 10% (>5 NTUs)

purge complete - collect sample

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.20 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-06-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: ______ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈48 ft bgs Screen Int. Depth 43-53 ft bgs
Sample Date & Time: 10 / 01 /2012 1705 hours —— (Dup Time)
Sampler(s): B. Geringer Initial WL: 7.27

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs 2. EDB

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1605	7.27	40 PSI/4 CPM	70	Initiate purge; check drawdown; adjust flow rate							Cloudy
1610	7.27	" "	" "	Fill flow-through cell / monitor parameter readings							↓
1620	7.27				16.56	319	6.28	101.5	2.49	23.2	Slightly Cloudy
1630	" "				16.13	318	6.27	133.7	1.20	11.1	Clear/colorless
1640					16.00	317	6.27	145.1	0.93	5.59	" "
1650					15.99	317	6.28	153.8	0.78	4.59	
1657					16.03	317	6.28	157.0	0.74	4.67	
1704	↓	↓	↓	≈1.0	16.00	317	6.28	157.1	0.72	4.98	↓
	Reach Stabilization - Collect Sample										

Acceptance Criteria: <0.3 ft (drawdown) +/- 3% +/- 3% +/- 0.5 S.U. +/- 10mV 10% (>2 mg/L) 10% (>5 NTUs)
+/- 0.5 mg/L (<2 mg/L)

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-07-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: YES (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈34 ft bgs Screen Int. Depth 29-39 ft bgs
Sample Date & Time: 10/01/2012 1445 hours — (Dup Time)
Sampler(s): B. Geringer Initial WL: 6.57

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs 2. EDB

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1340	—	40PSI/4CPM	70	Initiate purge; check drawdown; adjust flow rate							Cloudy
1345	6.57	" "	" "	Fill flow-through cell / monitor parameter readings							" "
1350	6.57				17.22	322	6.19	133.5	4.57	78	
1400	" "				15.84	306	5.76	137.5	1.74	29.7	Slightly Cloudy
1410					15.69	307	5.69	154.1	1.13	13.6	Clear/Colorless
1420					16.06	308	5.67	163.8	0.91	10.0	" "
1430					16.08	310	5.65	171.3	0.81	6.47	
1437					15.85	310	5.66	174.2	0.75	5.07	
1444				≈1.0	15.88	310	5.66	174.7	0.72	4.84	
	Reached	Stabilization	- Collect Sample								
Acceptance Criteria:	<0.3 ft (drawdown)				+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW - B250-08 - 1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ~ 37.5 ft bgs Screen Int. Depth 32.5-42.5 ft bgs
Sample Date & Time: 10/1/2012 1735 hours NA (Dup Time)
Sampler(s): P. Seward, B. Geringer

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs; EDB

6.60' btop of pvc = static WL

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1615	6.60	4CPM @ 40psi		Initiate purge; check drawdown; adjust flow rate							
		"		Fill flow-through cell / monitor parameter readings							
1630	6.60	"	85		17.74	216	6.27	89.6	3.77	offscale	cloudy
1635	6.60	"	85		17.76	222	6.14	97.6	2.55	offscale	cloudy
1640	6.60	"	85		17.21	252	6.18	96.0	1.36	320	cloudy
1645	6.60	"	85		17.08	268	6.22	90.7	1.00	200	cloudy
1650	6.60	"	85		16.55	293	6.25	84.2	0.73	120	cloudy
1655	6.60	"	85		16.47	298	6.26	84.0	0.63	50	cloudy
1700	6.60	"	85	0.5	16.37	300	6.27	83.3	0.61	24	clear colorless
1705	6.60	"	85		16.29	300	6.27	83.4	0.60	17	clear - colorless
1710	6.60	"	85		16.36	300	6.27	83.6	0.63	12	clear - colorless
1715	6.60	"	85		16.16	300	6.26	83.5	0.58	10	clear - colorless
1720	6.60	"	85		16.23	300	6.26	83.2	0.60	6.8	clear - colorless
1725	6.60	"	85		16.32	299	6.26	82.8	0.59	4.7	clear - colorless
1730	6.60	"	85	1.00	16.35	300	6.26	81.8	0.56	4.8	clear - colorless
				purge complete - collect sample							
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-09-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: MW-B250-DUP02-100312 (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈ 12 ft bgs Screen Int. Depth 5-15 ft bgs
Sample Date & Time: 10 / 03 /2012 0855 hours — (Dup Time)
Sampler(s): B. Geringer Initial WL: 8.82 TD: 14.66

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs 2. EDB

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0750	8.82	40 PSI / 4 CPM	70	Initiate purge; check drawdown; adjust flow rate							Cloudy
0755	8.82	" "	" "	Fill flow-through cell / monitor parameter readings							Clear
0805	8.82				18.32	125	6.17	98.3	1.75	15.8	Clear/colorless
0815	8.84		" "		18.83	119	6.11	-26.0	0.58	7.22	clear/colorless
0825	8.85		" "		18.80	118	6.10	-74.5	0.54	4.43	clear/colorless
0840	8.85				18.83	117	6.10	-101.9	0.25	4.26	" "
0847	8.86				18.79	118	6.10	-104.6	0.22	2.94	
0854	8.86			≈ 1.0	18.78	117	6.10	-108.0	0.20	2.43	
	Reached	Stabilization -	Collect	Sample							
Acceptance Criteria:	<0.3 ft (drawdown)				+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.25 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250 ~~MW~~ 10-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000   Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ~13 ft bgs   Screen Int. Depth 7-17 ft bgs
Sample Date & Time: 10/3/2012 0825 hours   NA (Dup Time)
Sampler(s): P. Seward
TD= ~~[illegible]~~ PS 16.80' b top of pvc

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs
EDB

Static WL = 9.62' b top of pvc - before pump insertion

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
~~1205~~ 0750	9.62	4CPM/40psi	75	Initiate purge; check drawdown; adjust flow rate							
		"		Fill flow-through cell / monitor parameter readings							
0755	9.62	"	75		17.47	211	5.95	161.4	4.48	1.6	clear-colorless
0800	9.62	"	75		17.49	211	5.93	160.2	3.94	0.00	" "
0805	9.65	"	75		17.53	212	5.92	157.5 ~~212~~ PS	3.86	0.00	" "
0810	9.65	"	75		17.62	211	5.93	149.3	3.74	0.00	" "
0815	9.65	"	75		17.57	211	5.92	150.1	3.87	0.00	" "
0820	9.65	"	75	0.5	17.61	211	5.94	142.3	3.74	0.00	" "
Acceptance Criteria:	<0.3 ft (drawdown)				+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.29 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

- pulled intake up to midpoint of water column per FOL direction.

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-11-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ~16 ft bgs Screen Int. Depth 11-21 ft bgs
Sample Date & Time: 10/3/2012 1105 hours NA (Dup Time)
Sampler(s): P. Seward

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs
2. EDB

static water level 10.80'
TD = 20.60 ft btop of pvc

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
25 ~~0940~~ 25	10.80	4CPM/40psi	75	Initiate purge; check drawdown; adjust flow rate							
		"		Fill flow-through cell / monitor parameter readings							
1030	10.80	"	75		18.18	168	6.34	14.6	2.17	29.9	cloudy - colorless
1035	10.80	"	75		17.97	169	6.34	6.7	0.61	10.03	clear - colorless
1040	10.80	"	75		17.86	168	6.33	4.9	0.47	4.06	clear - colorless
1045	10.80	"	75		17.84	168	6.33	3.6	0.42	2.19	clear - colorless
1050	10.80	"	75		17.73	167	6.32	0.1	0.38	0.77	clear - colorless
1055	10.80	"	75		17.65	167	6.31	-0.9	0.41	0.00	clear - colorless
1100	10.80	"	75	0.5	17.61	167	6.31	-2.1	0.39	0.00	clear - colorless
				purge complete							
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-12-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: 10 ft bgs Screen Int. Depth 5-15 ft bgs
Sample Date & Time: 10/3/2012 1300 hours NA (Dup Time)
Sampler(s): P. Seward

Field Instrument Group A / B / C / D (refer to site logbook for details)
Static WL = 6.80
Sample Analyses:
1. TCL VOCs 3 40mL vials
EDB - 2 40mL vials TD=14.65' fr top of pvc

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1225	6.80	4CPM/40psi	75	Initiate purge; check drawdown; adjust flow rate							
		4CPM/40psi		Fill flow-through cell / monitor parameter readings							
1230	6.85	4CPM/40psi	75		16.49	150	6.30	71.2	4.18	1.64	clear-colorless
1235	6.85	"	75		16.47	150	6.18	77.0	3.70	1.42	" "
1240	6.85	"	75		16.51	148	6.22	75.6	3.44	1.88	" "
1245	6.85	"	75		16.40	148	6.23	75.5	3.42	1.76	" "
1250	6.85	"	75		16.38	148	6.20	77.6	3.42	0.89	" "
1255	6.85	"	75	0.5	16.43	149	6.23	76.4	3.44	0.74	" "
				purge complete - collect sample							
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.32 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-13-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ±30 ft bgs Screen Int. Depth 25-35 ft bgs
Sample Date & Time: 10 / 02 /2012 ~~1512~~ 1602 hours — (Dup Time)
Sampler(s): B.Geninger
Initial WL: 5.75 TD: 34.54

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs 2. EDB

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1400	5.75	40PSI/ 4 CPM	50	Initiate purge; check drawdown; adjust flow rate							Cloudy
1405	5.75	50PSI/ 4CPM	80	Fill flow-through cell / monitor parameter readings							" "
1415	5.75	" "	" "		16.23	358	6.18	0.4	0.56	23.7	little Cloudy
1425	5.75				15.61	354	6.16	-14.1	0.32	12.4	Clear/colorless
1435	5.75				15.59	354	6.17	-35.4	0.23	10.84	" "
1441	5.75				15.49	354	6.17	-41.4	0.23	10.27	
1447	5.75				15.27	354	6.17	-45.8	0.20	7.63	
1453	5.75				15.21	353	6.17	-53.3	0.18	6.92	* Changed Tank
1459	5.75				15.41	353	6.18	-59.8	0.17	10.14	
1505	5.75				15.12	351	6.19	-64.3	0.17	10.30	
1511	5.75				15.04	350	6.20	-67.8	0.15	6.73	
1517	5.75				14.96	350	6.22	-68.9	0.14	5.92	
1523	5.75				14.81	341	6.26	-76.0	0.14	9.41	
1529	5.75				14.67	330	6.32	-87.9	0.13	7.14	
1539	5.75				14.60	328	6.35	-98.2	0.12	7.25	
15~~4~~49	5.75				14.52	327	6.36	-102.5	0.12	4.74	
1555	5.75				14.48	327	6.37	-108.2	0.11	4.50	
1601	5.75			9600mls/ or 2.5gal.	14.53	327	6.37	-112.0	0.11	6.01	
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

Reached 2 hour purge limit, collect sample

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.41 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-14-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ≈10.0 ft bgs Screen Int. Depth 4-14 ft bgs
Sample Date & Time: 10 / 03 /2012 12.13 hours — (Dup Time)
Sampler(s): B. Geringer Initial WL: 6.02 TD:

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs 2. EDB

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1120	6.02	30 PSI/4CPM	70	Initiate purge; check drawdown; adjust flow rate							
1125	6.02	" "	" "	Fill flow-through cell / monitor parameter readings							
1130	6.02				17.95	176	6.05	166.1	0.99	609	Cloudy
1137	6.02				17.86	174	5.95	86.2	0.85	109.7	↓
1144	6.02				17.69	181	5.91	74.1	0.69	34.7	
1151	6.02				17.73	186	5.92	65.0	0.67	22.1	Clear/colorless
1158	6.02				17.65	192	5.91	43.0	0.57	11.3	
1205	6.02				17.62	193	5.91	41.0	0.63	8.74	
1212	6.02	↓	↓	≈1.0	17.58	193	5.91	37.6	0.49	4.84	↓
		Reached	Stabilization	- Collect Sample							

Acceptance Criteria: <0.3 ft (drawdown) +/- 3% +/- 3% +/- 0.5 S.U. +/- 10mV 10% (>2 mg/L) 10% (>5 NTUs)
+/- 0.5 mg/L (<2 mg/L)

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.32 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH, INC.

PURGE DATA SHEET - "LOW STRESS" GROUNDWATER

Site Name: Former NASB Brunswick – Building 250 Investigation
Sample ID: MW-B250-15-1012

Tetra Tech NUS Charge No. 112G00958 / 0000.1000 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic or Bladder Pump
Depth Sampled: ~10 ft bgs Screen Int. Depth 5-15 ft bgs
Sample Date & Time: 10/2/2012 1440 hours NA (Dup Time)
Sampler(s): D. Seward

Field Instrument Group A / B / C / D (refer to site logbook for details)

Sample Analyses:
1. TCL VOCs ; EDB TD = 14.61' below top of pvc
Static water level 8.33 ft below top of pvc

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1355	8.35	4CPM / .40psi	70	Initiate purge; check drawdown; adjust flow rate							
				Fill flow-through cell / monitor parameter readings							
1400	8.35		70		17.93	293	6.12	43.7	2.80	23	clear - colorless
1405	8.35		70		17.05	286	5.77	55.9	0.49	2.8	" "
1410	8.35		70		16.99	289	5.86	46.9	0.34	0.0	" "
1415	8.35		70		17.05	289	5.88	44.9	0.32	0.0	" "
1420	8.35		70		16.96	290	5.90	42.4	0.31	0.0	" "
1425	8.35		70		16.91	290	5.91	40.9	0.37	0.0	" "
1430	8.35		70	0.5	16.87	290	5.92	39.9	0.35	0.0	" "
1435	8.35		70		16.83	290	5.92	39.1	0.34	0.0	" "
Acceptance Criteria: <0.3 ft (drawdown)					+/- 3%	+/- 3%	+/- 0.5 S.U.	+/- 10mV	10% (>2 mg/L) +/- 0.5 mg/L (<2 mg/L)	10% (>5 NTUs)	

TtNUS Form 0009 (modified for CTO 432)

Saturated Screen Volume (gallons) 0.25 (2" screen = 0.163 gals./ft of depth; 4" =0.653 gals/ft; 6"=1.469gals/ft)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. microSiemens per cm (same as micromhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

A-5 FLOOR DRAIN SCREENING LOGS

Tetra Tech, Inc.

Project: Building 250/Hangar 4 Vapor Intusion and Groundwater Investigation
Former Naval Air Station Brunswick, Maine

Date: 9/18/12

Project No.: 112G00958 / 0000.1000

By: Peter Seward / Brian Geringer

Date	Room No.	Sample ID	PID (ppm) Ambient	PID (ppm) Actual	Comments
9/18/2012	128	B250-128-FD01	0.0	0.0	
9/18/2012	131	B250-131-FD01	0.0	0.0	
9/18/2012	131	B250-131-FD02	0.0	0.0	lavatory - shower drain
9/18/2012	134	B250-134-FD01	0.0	0.0	locker room - removed brass cover
9/18/2012	135	B250-135-FD01	0.0	0.0	locker room - removed brass cover
9/18/2012	132	B250-132-FD01	0.0	0.0	
9/18/2012	109	B250-109-FD01	0.0	1.4	drain below emergency shower, initially covered with duct tape.
9/18/2012	122	B250-122-FD01	0.0	0.0	mechanical room
9/18/2012	122	B250-122-FD02	0.0	0.0	mechanical room
9/18/2012	155	B250-155-FD01	0.0	0.0	initially covered with duct tape
9/18/2012	155	B250-155-FD02	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	155	B250-155-FD03	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	160	B250-160-FD01	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	160	B250-160-FD02	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	160	B250-160-FD03	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	160	B250-160-FD04	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	158	B250-158-FD01	0.0	0.0	
9/18/2012	158	B250-158-FD02	0.0	0.0	
9/18/2012	159	B250-159-FD01	0.0	0.0	
9/18/2012	157	B250-157-FD01	0.0	0.4	
9/18/2012	145	B250-145-FD01	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	161	B250-161-FD01	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	161	B250-161-FD02	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	161	B250-161-FD03	--	--	covered with duct tape; removed duct tape covering (measured on 9/19/12)
9/18/2012	148	B250-148-FD01	0.0	0.0	lavatory - shower drain
9/18/2012	148	B250-148-FD02	0.0	0.0	
9/18/2012	149	B250-149-FD01	0.0	0.0	lavatory - shower drain
9/18/2012	149	B250-149-FD02	0.0	0.0	lavatory - shower drain
9/18/2012	149	B250-149-FD03	0.0	0.0	

FIELD INSTRUMENT: Mini RAE 2000 10.6 eV PID

OBSERVATION NOTES: Increasing clouds, 60°Fs

Tetra Tech, Inc.

Project: Building 250/Hangar 4 Vapor Intrusion and Groundwater Investigation
Former Naval Air Station Brunswick, Maine

Date: 9/19/12

Project No.: 112G00958 / 0000.1000

By: Peter Seward / Brian Geringer

Date	Room No.	Sample ID	PID (ppm) Ambient	PID (ppm) Actual	Comments
9/19/2012	mechanical room	B250-MR-FD01	0.0	0.0	
9/19/2012	production area	B250-PA-FD01	0.0	0.0	
9/19/2012	170C	B250-170C-FD01	0.0	0.0	
9/19/2012	172	B250-172-FD01	0.0	0.0	
9/19/2012	hallway adjacent to Geedunk	B250-HAG-FD01	0.0	0.0	
9/19/2012	hallway adjacent to paint booth	B250-HAPB-FD01	0.0	0.0	
9/19/2012	bathroom adjacent to paint booth	B250-BAPB-FD01	0.0	0.0	
9/19/2012	boiler room	B250-BR-FD01	0.0	0.0	
9/19/2012	boiler room	B250-BR-FD02	0.0	0.0	
9/19/2012	boiler room	B250-BR-FD03	0.0	0.0	
9/19/2012	men's lavatory adjacent to Room	B250-MRA-FD01	0.0	0.0	lavatory - shower drain
9/19/2012	janitor closet #1	B250-JC1-FD01	0.0	0.0	
9/19/2012	janitor closet #2	B250-JC2-FD01	0.0	0.0	
9/19/2012	women's lavatory adjacent to Room 116	B250-WRA-FD02	0.0	0.0	lavatory - shower drain
9/19/2012	south trench drain	B250-H4-TDS01	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	south trench drain	B250-H4-TDS02	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	south trench drain	B250-H4-TDS03	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	south trench drain	B250-H4-TDS04	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	north trench drain	B250-H4-TDN01	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	north trench drain	B250-H4-TDN02	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	north trench drain	B250-H4-TDN03	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	north trench drain	B250-H4-TDN04	0.0	0.0	Hangar 4 Trench Drain
9/19/2012	155	B250-155-FD02	0.0	19.6	1 day after duct tape covering removal; slight odor
9/19/2012	155	B250-155-FD03	0.2	0.6	1 day after duct tape covering removal; slight odor
9/19/2012	160	B250-160-FD01	0.2	1.6	1 day after duct tape covering removal; slight odor
9/19/2012	160	B250-160-FD02	0.3	0.2	1 day after duct tape covering removal; slight odor
9/19/2012	160	B250-160-FD03	0.2	3.0	1 day after duct tape covering removal; slight odor
9/19/2012	160	B250-160-FD04	0.0	0.2	1 day after duct tape covering removal
9/19/2012	145	B250-145-FD01	0.0	1.0	1 day after duct tape covering removal
9/19/2012	161	B250-161-FD01	0.0	0.3	1 day after duct tape covering removal
9/19/2012	161	B250-161-FD02	0.0	5.6	1 day after duct tape covering removal
9/19/2012	161	B250-161-FD03	0.0	0.2	1 day after duct tape covering removal

FIELD INSTRUMENT: Mini RAE 2000 10.6 eV PID

OBSERVATION NOTES: Decreasing clouds, 60°Fs, windy

Tetra Tech, Inc.

Floor Drain Screening

Project: Building 250/Hangar 4 Vapor Intrusion and Groundwater Investigation
Former Naval Air Station Brunswick, Maine

Date: 22-Oct-2012

Project No.: 112G00645 / 0000.6025

By: Keith Simpson/ Terry Rojahn

Date	Room No.	Sample ID	PID (ppm) Ambient / Actual		Comments
22-Oct-12	128	B250-128-FD01	0.0	0.0	
22-Oct-12	131	B250-131-FD01	0.0	0.0	
22-Oct-12	131	B250-131-FD02	0.0	0.0	lavatory - shower drain
22-Oct-12	134	B250-134-FD01	0.0	0.0	locker room - removed brass cover
22-Oct-12	135	B250-135-FD01	0.0	0.0	locker room - removed brass cover
22-Oct-12	132	B250-132-FD01	0.0	0.0	
22-Oct-12	109	B250-109-FD01	0.0	3.3	drain below emergency shower
22-Oct-12	122	B250-122-FD01	0.0	0.0	mechanical room
22-Oct-12	122	B250-122-FD02	0.0	0.0	mechanical room
22-Oct-12	122	B250-122-FD03	0.0	0.0	mechanical room, reading taken in tunnel (below hatch)
22-Oct-12	155	B250-155-FD01	0.0	0.0	
22-Oct-12	155	B250-155-FD02	0.0	6.6	
22-Oct-12	155	B250-155-FD03	0.0	0.2	
22-Oct-12	160	B250-160-FD01	0.0	0.2	
22-Oct-12	160	B250-160-FD02	0.0	0.4	
22-Oct-12	160	B250-160-FD03	0.0	0.0	
22-Oct-12	160	B250-160-FD04	0.0	0.0	
22-Oct-12	158	B250-158-FD01	0.0	0.0	
22-Oct-12	158	B250-158-FD02	0.0	0.0	
22-Oct-12	159	B250-159-FD01	0.0	0.0	
22-Oct-12	157	B250-157-FD01	0.0	0.0	
22-Oct-12	145	B250-145-FD01	0.0	0.0	
22-Oct-12	161	B250-161-FD01	0.0	0.0	
22-Oct-12	161	B250-161-FD02	0.0	0.0	
22-Oct-12	161	B250-161-FD03	0.0	0.0	
22-Oct-12	148	B250-148-FD01	0.0	0.0	lavatory - shower drain
22-Oct-12	148	B250-148-FD02	0.0	0.0	
22-Oct-12	149	B250-149-FD01	0.0	0.0	lavatory - shower drain
22-Oct-12	149	B250-149-FD02	0.0	0.0	lavatory - shower drain
22-Oct-12	149	B250-149-FD03	0.0	0.0	

FIELD INSTRUMENT: Mini RAE 3000 10.6 eV PID

OBSERVATION NOTES: Clear, 50°Fs, Ambient readings taken in Breathing Zone, Actual readings taken 1 to 2" above drain.

Tetra Tech, Inc.

Floor Drain Screening

Project: Building 250/Hangar 4 Vapor Intrusion and Groundwater Investigation
Former Naval Air Station Brunswick, Maine

Date: 22-Oct-2012

Project No.: 112G00645 / 0000.6025

By: Keith Simpson/ Terry Rojahn

Date	Room No.	Sample ID	PID (ppm) Ambient / Actual		Comments
22-Oct-12	mechanical room	B250-MR-FD01	0.0	0.0	
22-Oct-12	production area	B250-PA-FD01	0.0	0.0	
22-Oct-12	170C	B250-170C-FD01	0.0	0.0	
22-Oct-12	172	B250-172-FD01	0.0	0.0	
22-Oct-12	hallway adjacent to Geedunk	B250-HAG-FD01	0.0	0.0	
22-Oct-12	hallway adjacent to paint booth	B250-HAPB-FD01	0.0	0.0	
22-Oct-12	bathroom adjacent to paint booth	B250-BAPB-FD01	0.0	0.0	
22-Oct-12	boiler room	B250-BR-FD01	0.0	0.0	
22-Oct-12	boiler room	B250-BR-FD02	0.0	0.0	
22-Oct-12	boiler room	B250-BR-FD03	0.0	0.0	
22-Oct-12	men's lavatory adjacent to Room	B250-MRA-FD01	0.0	0.0	lavatory - shower drain
22-Oct-12	janitor closet #1	B250-JC1-FD01	0.0	0.0	
22-Oct-12	janitor closet #2	B250-JC2-FD01	0.0	0.0	
22-Oct-12	women's lavatory adjacent to Room 116	B250-WRA-FD02	0.0	0.0	lavatory - shower drain
22-Oct-12	south trench drain	B250-H4-TDS01	0.0	0.0	Hangar 4 Trench Drain
22-Oct-12	south trench drain	B250-H4-TDS02	0.0	0.0	Hangar 4 Trench Drain
22-Oct-12	south trench drain	B250-H4-TDS03	0.0	0.0	Hangar 4 Trench Drain
22-Oct-12	south trench drain	B250-H4-TDS04	0.0	0.0	Hangar 4 Trench Drain
22-Oct-12	north trench drain	B250-H4-TDN01	0.0	0.0	Hangar 4 Trench Drain
22-Oct-12	north trench drain	B250-H4-TDN02	0.0	0.0	Hangar 4 Trench Drain
22-Oct-12	north trench drain	B250-H4-TDN03	0.0	0.0	Hangar 4 Trench Drain
22-Oct-12	north trench drain	B250-H4-TDN04	0.0	0.0	Hangar 4 Trench Drain

FIELD INSTRUMENT: Mini RAE 3000 10.6 eV PID

OBSERVATION NOTES: Clear, 50°Fs, Ambient readings taken in Breathing Zone, Actual readings taken 1 to 2" above drain.

A-6 INDOOR AIR, UTILITY TUNNEL, FLOOR DRAIN VAPOR AND OUTDOOR AIR SAMPLE LOGS

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 1
Project No.:	112G00645	**Sample Location:**	HANGER
Sample Date:	10-23-12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2045	**Canister Leak Check Date:**	—

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [x] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1224	29	83
STOP	2045	4	77

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number: 833
Canister: ~~0008~~ TR
Valve: TR ~~2034~~ 04835

Calculated:
Flow Rate (ml/min): ~12
Sample Duration (min): 501

HANGER DOORS & OFFICE DOORS CLOSED DURING SAMPLING
NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:	4	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading @ 1025	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1224	29	83	30.00
1324	26	79	30.00
1425	23	79	30.00
1525	20	79	30.00
1625	17	78	30.00
1725	14	73	30.03
1825	10	73	30.06
1925	7	75	30.06
2025	5	77	30.09
2045	4	77	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 1

Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 2
Project No.:	112G00645	**Sample Location:**	HANGER
Sample Date:	10.23.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2055	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1220	30+	83
STOP	2055	4	77

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number: 12844
Canister: TR ~~0227~~
Valve: TR-~~0044~~ 04846

Calculated:
Flow Rate (ml/min): ~11.7
Sample Duration (min): 515

HANGER DOORS & OFFICE DOORS CLOSED DURING SAMPLING
NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 30+ in. Hg
Gauge reading at the end of sampling: 4 in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading @1030 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1220	30+	83	30.00
1230	27.5	79	30.00 @1330
1420	25	79	30.00
1520	22	79	30.00
1620	19	78	30.00
1720	15	73	30.03
1820	13	73	30.06
1920	9	75	30.06
2020	6	77	30.09
2055	4	77	30.07

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 2

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 3
Project No.:	112G00645	**Sample Location:**	HANGER
Sample Date:	10.23.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2125	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1232	30+	83
STOP	2125	6	77

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number: 12826

Canister: TR ~~0228~~

Valve: TR ~~0096~~ 04829

Calculated:

Flow Rate (ml/min): ~11.3

Sample Duration (min): 533

NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	6	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading @ 1033	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1232	30+	83	30.00
1332	29	79	30.00
1432	26	79	30.00
1532	24	79	30.00
1632	21	79	30.00
1732	18	73	30.03
1832	15	73	30.06
1932	12	75	30.06
2032	10	77	30.09
2125	6	77	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 3

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 10.23.12
Sample Time: 2035
Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

Sample ID No.: AIR4
Sample Location: ROOM 173
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1230	30	71
STOP	2035	4	70

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 843
Valve: 04844

Calculated:
Flow Rate (ml/min): ~12.4
Sample Duration (min): 485

DOOR TO ROOM CLOSED DURING SAMPLING
NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 30 in. Hg
Gauge reading at the end of sampling: 4 in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading @ 1038 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1230	30	71	30.00
1330	27	71	30.00
1430	25	71	30.00
1530	21	71	30.00
1630	18	70	30.00
1730	15	70	30.03
1830	11	70	30.06
1930	8	70	30.06
2030	4	71	30.09
2035	4	70	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 4

Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 10.23.12
Sample Time: 2052
Sample ID No.: AIR5
Sample Location: STORAGE AREA
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1215	30+	74
STOP	2052	3.5	72

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12589
Valve: 04836

Calculated:
Flow Rate (ml/min): ~11.6
Sample Duration (min): 517

NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 30+ in. Hg
Gauge reading at the end of sampling: 3.5 in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading @ 1040 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1215	30+	74	30.06
1317	28	74	30.06
1418	25	72	30.00
1518	21	72	30.00
1618	18	72	30.00
1718	15	72	30.03
1818	12	71	30.06
1918	8	72	30.06
2018	6	72	30.09
2052	3.5	72	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 5

Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 6
Project No.:	112G00645	**Sample Location:**	Room 155
Sample Date:	10-23-12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2115	**Canister Leak Check Date:**	NA ~~10-23-12~~

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1223	30+	72
STOP	2115	6.3	72

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12839

Valve: 04830

Calculated:

Flow Rate (ml/min): 11.3

Sample Duration (min): 532

NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	6.3	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading @ 1046	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1223	30+	72	30.06
1322	27	72	30.06
1426	24	72	30.00
1522	21	72	30.00
1619	18.5	72	30.00
1714	16	73	30.03
1817	13	73	30.06
1919	10	73	30.06
2015	8.25	72	30.09
2115	6.3	72	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 6

Duplicate ID No.: —

Signature(s): [signature]

6

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 7
Project No.:	112G00645	**Sample Location:**	Room 160
Sample Date:	10-23-12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2041	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1226	29	70
STOP	2041	4.25	70

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12851

Valve: 04831

Calculated:

Flow Rate (ml/min): ~12.1

Sample Duration (min): 495

Doors closed

NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:		in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading @ 1051	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1226	29	70	30.06
1325	26.75	70	30.06
1429	23.5	70	30.00
1524	20.5	70	30.00
1622	17.5	71	30.00
1717	14.5	71	30.03
1820	11.5	70	30.06
1922	8.5	70	30.06
2018	5.5	70	30.09
2041	4.25	70	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 7

Duplicate ID No.: —

Signature(s): T. Rojahn

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Sample ID No.: AIR 8
Project No.: 112G00645
Sample Location: Room 151
Sample Date: 10-23-12
Sampled By: K. Simpson & T. Rojahn
Sample Time: 2108
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1232	30+	71
STOP	2108	8	70

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12836
Valve: 04833

Calculated:
Flow Rate (ml/min): ~11.6
Sample Duration (min): 516

Doors Closed
No CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 30+ in. Hg
Gauge reading at the end of sampling: in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading @ 1055 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1232	30+	71	30.06
1334	30	71	30.06
1433	28	71	30.00
1528	25	71	30.00
1625	22.5	71	30.00
1721	20	71	30.03
1824	16.5	71	30.06
1925	13.5	70	30.06
2022	10.5	70	30.09
2108	8	70	30.09

Reading 3.5 AFTER stopped gauge

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 8

Duplicate ID No.: —

Signature(s): [signature]

3

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Sample ID No.: AIR 9
Project No.: 112G00645
Sample Location: Room 138
Sample Date: 10-23-12
Sampled By: K. Simpson & T. Rojahn
Sample Time: 2037
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1229	30	70
STOP	2037	5	70

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 828
Valve: 04832

Calculated:
Flow Rate (ml/min): ~12.3
Sample Duration (min): 488

Blower & Heat Above Location
Doors Closed
No Chemicals

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 30 in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading @ 1101 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1229	30	70	30.06
1330	27.5	71	30.06
1432	25	71	30.00
1527	22	71	30.00
1624	19	71	30.00
1720	16	71	30.03
1823	12.25	71	30.06
1924	9	70	30.06
2021	6.5	70	30.09
2037	5	70	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 9

Duplicate ID No.: —

Signature(s): [signature]

9

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 10-23-12
Sample Time: 2033
Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

Sample ID No.: AIR 10
Sample Location: Room 157
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1227	30	70
STOP	1233	2	70

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12830
Valve: 04841

Calculated:
Flow Rate (ml/min): ~12.3
Sample Duration (min): 486

NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 30 in. Hg
Gauge reading at the end of sampling: 2 in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading @ 1052 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1227	30	70	30.06
1328	27.25	70	30.06
1430	24	70	30.00
1525	20.5	70	30.00
1623	17.5	71	30.00
1718	14	71	30.03
1821	10	70	30.06
1922	6.5	70	30.06
2019	3	70	30.09
2033	2	70	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 10

Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 11
Project No.:	112G00645	**Sample Location:**	Room 161
Sample Date:	10-23-12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2035	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1222	29	72
STOP	2035	4.9	72

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12591

Valve: 04839

Calculated:

Flow Rate (ml/min): ~12.2

Sample Duration (min): 493

Doors Closed during sampling

No Chemicals

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:	4.9	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading @ 1059	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1222	29	72	30.06
1321	27	72	30.06
1424	23.5	72	30.00
1520	20.5	72	30.00
1618	18	72	30.00
1713	15	73	30.03
1816	11.5	73	30.06
1917	8.5	73	30.06
2014	6	73	30.09
2035	4.9	72	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET SBS 11

Duplicate ID No.: —

Signature(s): [signature]

11

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 12
Project No.:	112G00645	**Sample Location:**	HALLWAY
Sample Date:	10.23.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2118	**Canister Leak Check Date:**	

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1238	29	67
STOP	2118	5	67

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12824
Valve: 04840

Calculated:
Flow Rate (ml/min): ~11.5
Sample Duration (min): 520

NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 29 in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading @ 1114 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1238	29	67	30.00
1338	27	67	30.00
1438	25	67	30.00
1538	22	67	30.00
1638	19	66	30.00
1738	16	66	30.03
1837	13	67	30.06
1938	10	67	30.06
2038	8	67	30.09
2118	5	67	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 12

Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 13
Project No.:	112G00645	**Sample Location:**	ROOM 109
Sample Date:	10.23.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2038	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1236	29	65
STOP	2038	4.5	66

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 827

Valve: 04843

Calculated:

Flow Rate (ml/min): ~12.4

Sample Duration (min): 482

DOORS CLOSED DURING SAMPLING

NO CHEMICALS

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:	4.5	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading @ 1104	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1236	29	65	30.00
1336	27	63	30.00
1436	24	64	30.00
1536	20	64	30.00
1636	17	63	30.00
1736	15	64	30.03
1838	11	65	30.06
1936	8	65	30.06
2036	5	65	30.09
2038	4.5	66	30.09

SKETCH OF SAMPLE LOCATION:

SEE SAMPLE LOG SHEET FOR SBS 13

Duplicate ID No.:

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 10-23-12
Sample Time: 2035
Sample ID No.: AIR 14
Sample Location: Escape Hatch
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [Utility Tunnel]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1236	29.5	71
STOP	2035	3.25	68

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12834
Valve: 04901

Calculated:
Flow Rate (ml/min): ~12.5
Sample Duration (min): 479

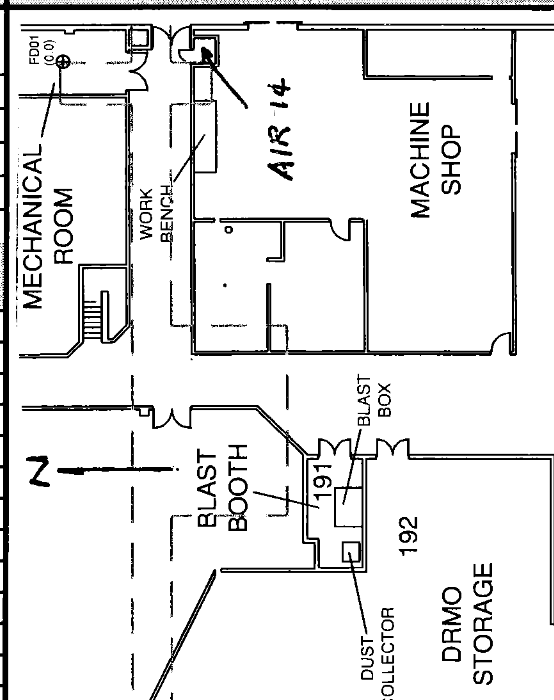
Door Closed during sampling
FLOOR TO BTM OF TUNNEL = 10' 8"
SET TUBING (CAN INLET) @ 5' 8" BELOW FLOOR BERM
5' OFF BTM OF TUNNEL

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 29.5 in. Hg
Gauge reading at the end of sampling: 3.25 in. Hg
Cylinder intake @ ~ 5' 8"
Ambient Air PID Reading @1019 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1236	29.5	71	30.06
1337	26.5	71	30.06
1434	23.5	70	30.00
1530	20.5	71	30.00
1628	17.5	70	30.00
1723	14	70	30.03
1827	10.5	69	30.06
1927	7	69	30.06
2023	4	68	30.09
2035	3.25	68	30.03

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 15
Project No.:	112G00645	**Sample Location:**	Room 155 FD2
Sample Date:	10-23-12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2042 (DUP@0000)	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [Floor Drain]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	DUP	CANISTER PRESSURE (Inches Hg)	DUP	TEMPERATURE (°F)	DUP
START	1224	1225	29	30	72	72
STOP	2040	2042	5	6.5	72	72

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:		DUP
Canister:	842	831
Valve:	04905	04903

Calculated:		DUP
Flow Rate (ml/min):	~12	~12.1
Sample Duration (min):	498	497

Room 155 FD 02

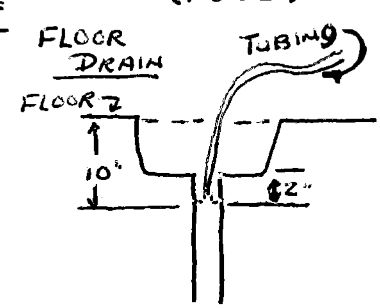
COMMENTS:

			DUP:
Gauge reading prior to start of sampling (off position):	0	in. Hg	0
Gauge reading at sample start up (on position):	29	in. Hg	30
Gauge reading at the end of sampling:	5	in. Hg	6.5
Cylinder intake @	~10"	~~ft~~ TR	~10"
Ambient Air PID Reading 1048	~~23~~ 23.5	ppm	23.5

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)	DUP: Canister Pressure
1224	29	72	30.06	30
1323	27	72	30.06	28
1427	24	72	30.00	25
1523	21.5	72	30.00	22.5
1620	18.5	72	30.00	20
1715	15.5	72	30.03	17
1818	12.25	72	30.06	14
1920	9	72	30.06	11
2016	6.5	72	30.09	8
2042	5	72	30.09	6.5

SKETCH OF SAMPLE LOCATION:

SEE FIGURE NO 5 FOR THE LOCATION OF ROOM 155 FLOOR DRAIN 2 (FD02)



Duplicate ID No.: FD102312

Signature(s): [signature]

15

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AB102312
Project No.:	112G00645	**Sample Location:**	OUT SIDE
Sample Date:	10.23.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	2047	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [AMBIENT BLANK]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1227	29	59
STOP	2047	4	46

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12590

Valve: 04838

Calculated:

Flow Rate (ml/min): ~12

Sample Duration (min): 500

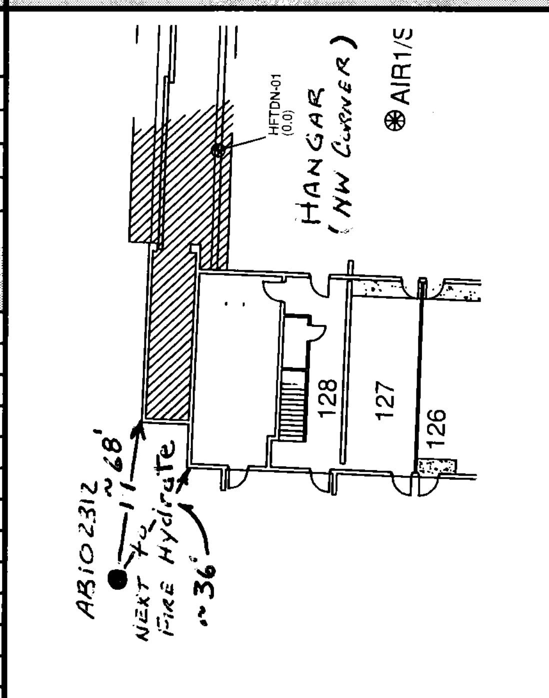
OUTSIDE NW CORNER OF BUILDING (ROOM 128)
@ FIRE HYD

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:	4	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading 1027	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1227	29	59	30.00
1327	27	59	30.00
1428	24	59	30.00
1528	21	59	30.00
1628	18	59	30.00
1728	15	56	30.03
1828	12	50	30.06
1928	9	48	30.06
2028	6	47	30.09
2047	4	46	30.09

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 1
Project No.:	112G00645	**Sample Location:**	HANGAR
Sample Date:	5.21.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1632	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0816	30+	59
STOP	1632	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12849

Valve: 04830

Calculated:

Flow Rate (ml/min): ~12.1

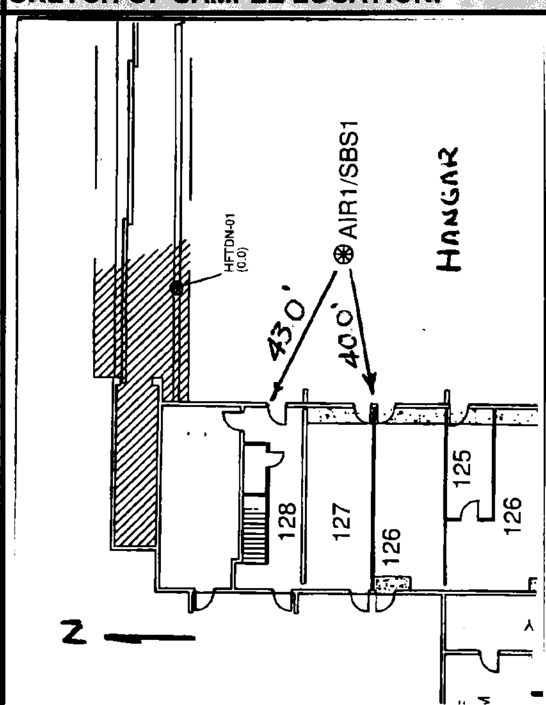
Sample Duration (min): 496

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	4.9	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0816	30+	59	29.91
0918	28	59	29.91
1012	25	59	29.91
1113	22	59	29.91
1212	20	59	29.94
1314	15	59	29.94
1412	13	60	29.94
1512	10	59	29.91
1610	7	59	29.97
1632	5	59	29.97

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ——

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR2
Project No.:	112G00645	**Sample Location:**	HANGER
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1608	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0814	30+	59
STOP	1608	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12591

Valve: 04832

Calculated:

Flow Rate (ml/min): ~ 12.7

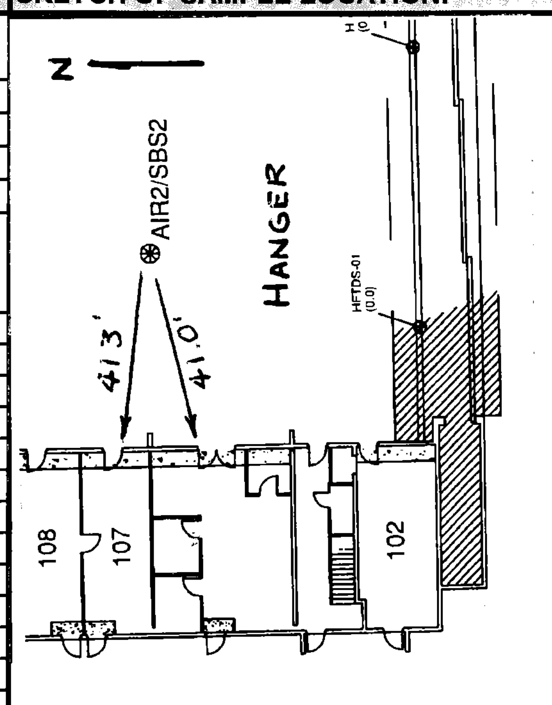
Sample Duration (min): 474

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0814	30+	59	29.91
0916	28.5	59	29.91
1010	26	59	29.91
1112	23	59	29.91
1210	20	59	29.94
1312	15	59	29.94
1410	12	60	29.94
1510	9	59	29.91
1609	5	59	29.97

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ____

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR3
Project No.:	112G00645	**Sample Location:**	HANGAR
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1648	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0812	30+	59
STOP	1648	6	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12847

Valve: 04907

Calculated:

Flow Rate (ml/min): ~11.6

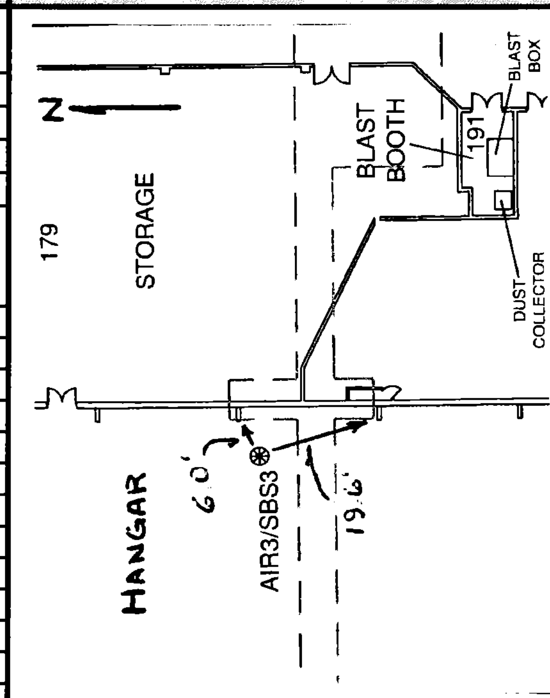
Sample Duration (min): 516

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	6	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0812	30+	59	29.91
0914	28	59	29.91
1008	26	59	29.91
1110	23	59	29.91
1208	21	59	29.94
1311	18	59	29.94
1406	15	60	29.94
1506	12	59	29.91
1605	9	59	29.97
1648	6	59	29.97

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ______

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 4
Project No.:	112G00645	**Sample Location:**	Room 173
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1613	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0910	30	68
STOP	1613	4	68

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12839

Valve: 05076

Calculated:

Flow Rate (ml/min): ~12.4

Sample Duration (min): 483

DOOR CLOSED

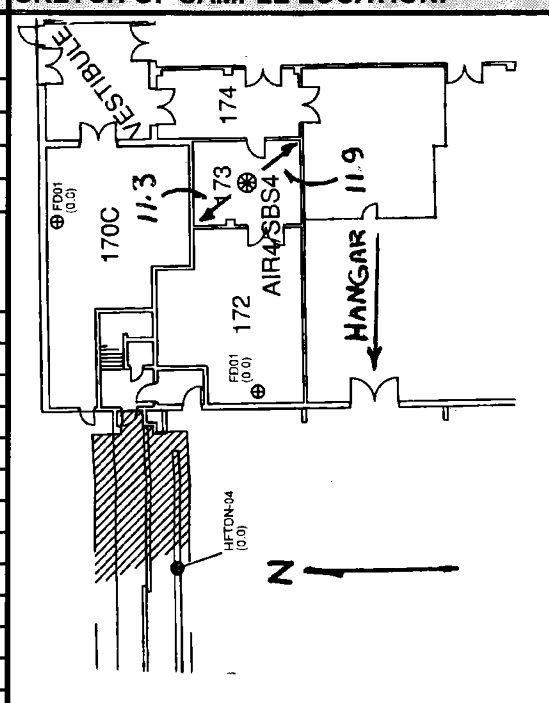
COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	4	in. Hg
Cylinder intake @	4.9	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0810	30	68	29.91
0912	27	68	29.91
1006	24	68	29.91
1108	21	69	29.91
1205	18	68	29.94
1309	15	68	29.94
1404	12	68	29.94
1504	8	68	29.91
1613	4	68	29.97

STOP @ 1613

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ______

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 5
Project No.:	112G00645	**Sample Location:**	STORAGE AREA
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1605	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0807	30+	59
STOP	1605	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 830

Valve: 04899

Calculated:

Flow Rate (ml/min): ~12.6

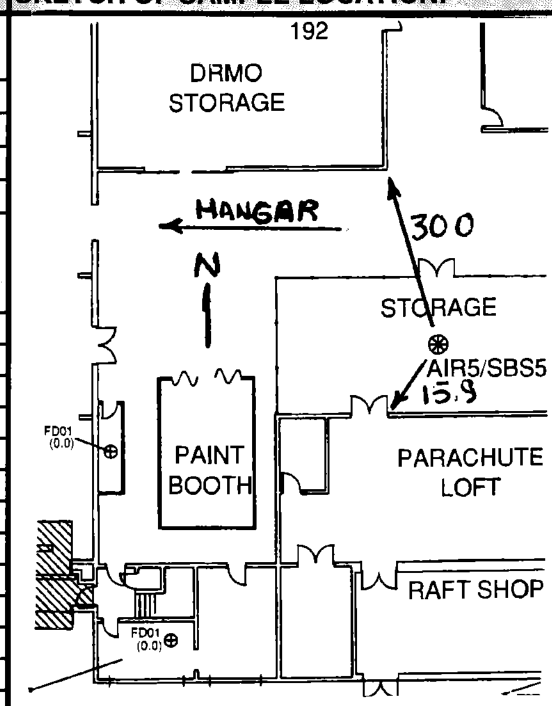
Sample Duration (min): 478

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	4.85	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0807	30+	59	29.91
0858	28.5	61	29.91
1005	25	60	29.91
1106	22	61	29.91
1201	18.5	61	29.94
1305	15	60	29.94
1402	11.5	59	29.94
1502	8	59	29.91
1600	5.5	59	29.97
1605	5	59	29.97

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ——

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 6
Project No.:	112G00645	**Sample Location:**	Room 155
Sample Date:	05-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1700	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME Routine	TIME DUP	CANISTER PRESSURE (Inches Hg) Routine	CANISTER PRESSURE (Inches Hg) DUP	TEMPERATURE (°F)
START	0814	0814	30	30	60
STOP	1700	1700	3	10	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:	AIR 6	DUP
Canister:	12825	14034
Valve:	03056	04906

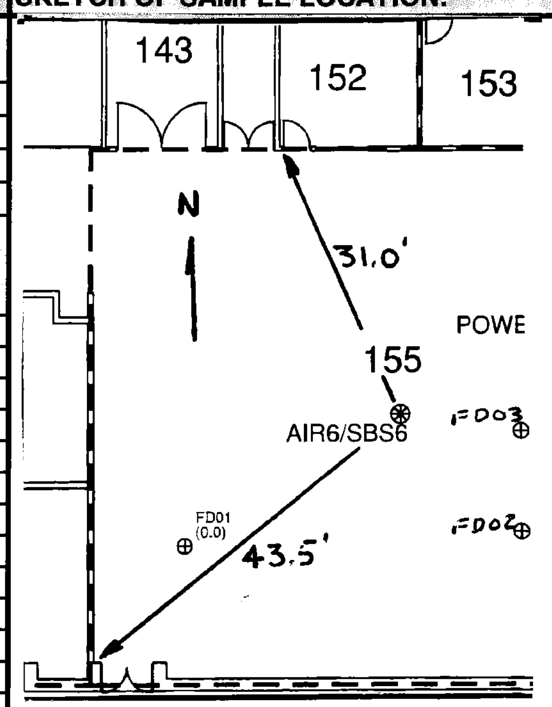
Calculated:
Flow Rate (ml/min): ~11.2
Sample Duration (min): 536

COMMENTS:

	AIR 6	DUP	
Gauge reading prior to start of sampling (off position):	0	0	in. Hg
Gauge reading at sample start up (on position):	30	30	in. Hg
Gauge reading at the end of sampling:	3	10	in. Hg
Cylinder intake @	4.95	4.95	ft.
Ambient Air PID Reading	0		ppm

Time	Canister Pressure (in Hg) AIR 6	Canister Pressure (in Hg) DUP	Temp (°F)	Barometric Pressure (in Hg)
0814	30	30	60	29.91
0908	27	28	60	29.91
1007	24	26	60	29.91
1108	20.5	24	60	29.91
1203	17.5	22	60	29.94
1307	14	20	59	29.94
1405	11	17	59	29.94
1504	8	15	59	29.91
1601	5	13	59	29.97
1700	3	10	59	29.94

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: FD 052113

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 5-21-13
Sample Time: 1621
Sample ID No.: AIR 7
Sample Location: Room 160
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0816	30+	59
STOP	1621	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12834
Valve: 04844

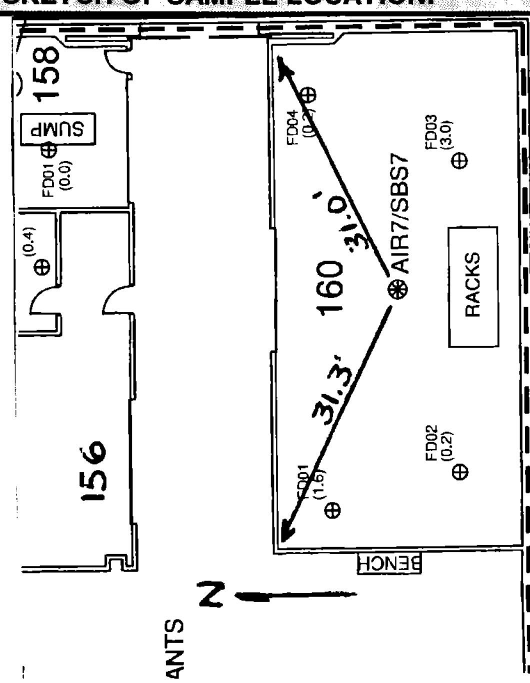
Calculated:
Flow Rate (ml/min): 12.4
Sample Duration (min): 485

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	4.95	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0816	30+	59	29.91
0909	28.5	60	29.91
1009	25	60	29.91
1109	22	60	29.91
1204	19	60	29.94
1308	15	59	29.94
1406	12	59	29.94
1505	8	59	29.91
1602	5.5	59	29.97
1621	5	59	29.97

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.:

Signature(s): Tony Rojahn

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR8
Project No.:	112G00645	**Sample Location:**	Room 151
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1536	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0822	29	60
STOP	1536	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 829
Valve: 05699

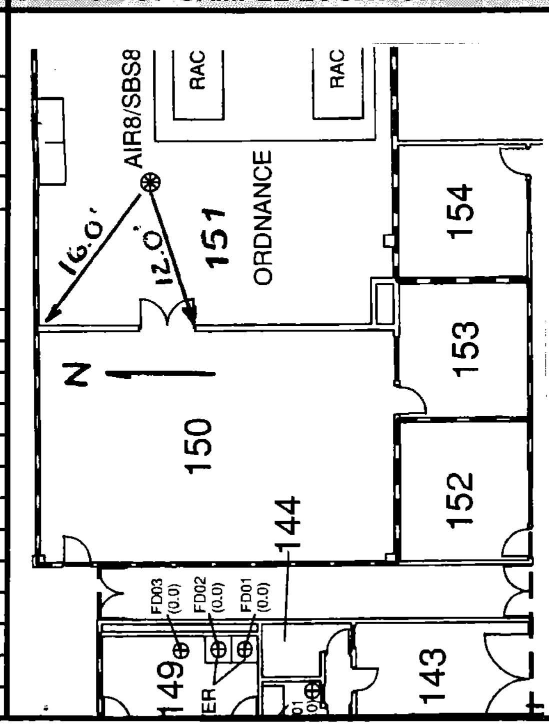
Calculated:
Flow Rate (ml/min): ~14.0
Sample Duration (min): 434

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	4.95	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0822	29	60	29.91
0911	27	60	29.91
1011	24	60	29.91
1111	20.5	60	29.91
1206	17	60	29.94
1310	13	59	29.94
1408	10	59	29.94
1507	6.5	59	29.91
1536	5	59	29.91

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ______

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

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Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 9
Project No.:	112G00645	**Sample Location:**	Room 138
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1603	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0825	30+	59
STOP	1603	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12827

Valve: 02872

Calculated:

Flow Rate (ml/min): ~13.1

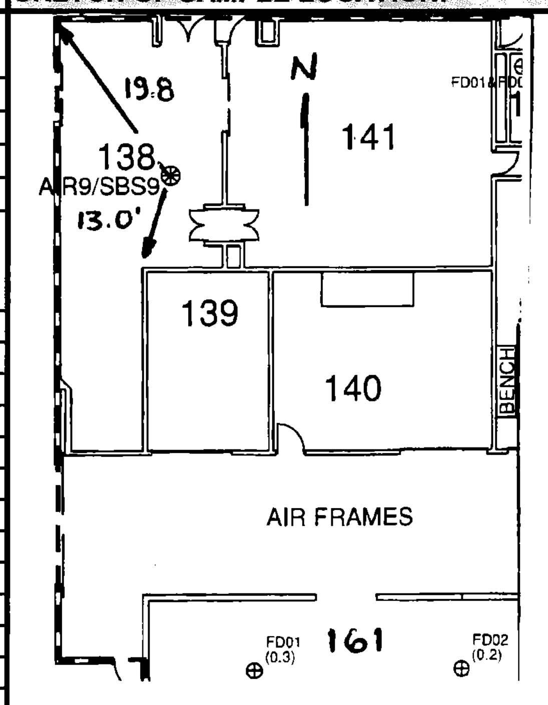
Sample Duration (min): 458

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	4.85	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0825	30+	59	29.91
0913	29	60	29.91
1012	25.5	60	29.91
1112	22	60	29.91
1207	19	60	29.94
1311	15	59	29.94
1410	11.5	59	29.94
1509	7	59	29.91
1603	5	59	29.97

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ______

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 10
Project No.:	112G00645	**Sample Location:**	Room 157
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1622	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0819	30+	59
STOP	1622	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12836

Valve: 04829

Calculated:

Flow Rate (ml/min): 12.4

Sample Duration (min): 483

COMMENTS:

Gauge reading prior to start of sampling (off position): 2 in. Hg

Gauge reading at sample start up (on position): 30+ in. Hg

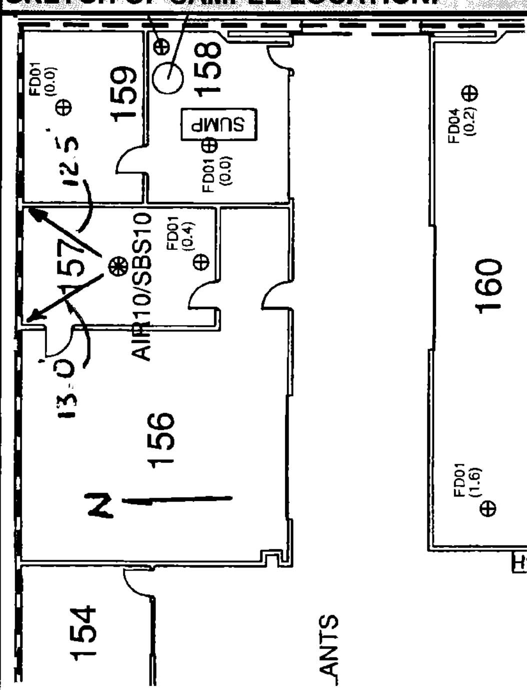
Gauge reading at the end of sampling: 5 in. Hg

Cylinder intake @ 4.95 ft.

Ambient Air PID Reading 0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0819	30+	59	29.91
0910	29	60	29.91
1010	26	60	29.91
1110	22.5	60	29.91
1205	19.5	60	29.94
1309	16	59	29.94
1407	12.5	59	29.94
1506	9	59	29.91
1602	6	59	29.97
1622	5	59	29.97

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ———

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 11
Project No.:	112G00645	**Sample Location:**	Room 161
Sample Date:	5/21/13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1535	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0811	28	59
STOP	1535	5	59

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 828

Valve: 02799

Calculated:

Flow Rate (ml/min): ~13.5

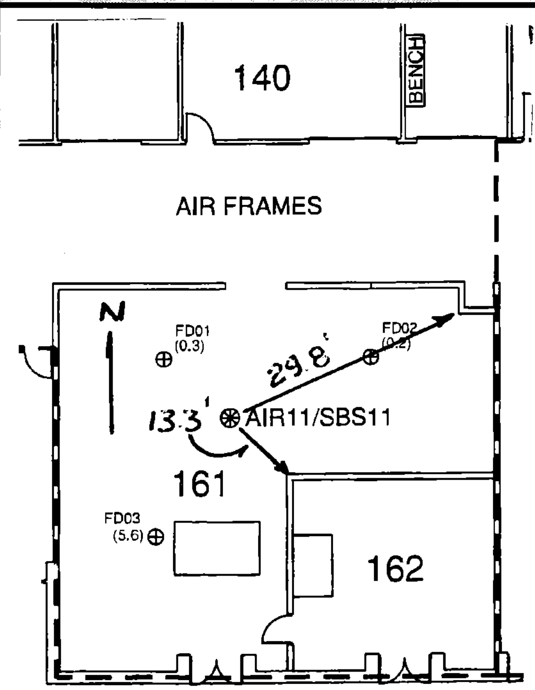
Sample Duration (min): 444

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	28	in. Hg
Gauge reading at the end of sampling:	5 ~~10~~	in. Hg
Cylinder intake @	5.1	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0811	28	59	29.91
0906	27	61	29.91
1006	24	59	29.91
1107	20.5	60	29.91
1202	17	60	29.94
1306	13.5	59	29.94
1404	10	59	29.94
1503	7	59	29.91
1535	5	59	29.91

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.:

Signature(s): Terry Hoyle

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 5-21-13
Sample Time: 1502
Sample ID No.: AIR 12
Sample Location: HALLWAY
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]
Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0905	29	67
STOP	1502	3	65

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 827
Valve: 04835

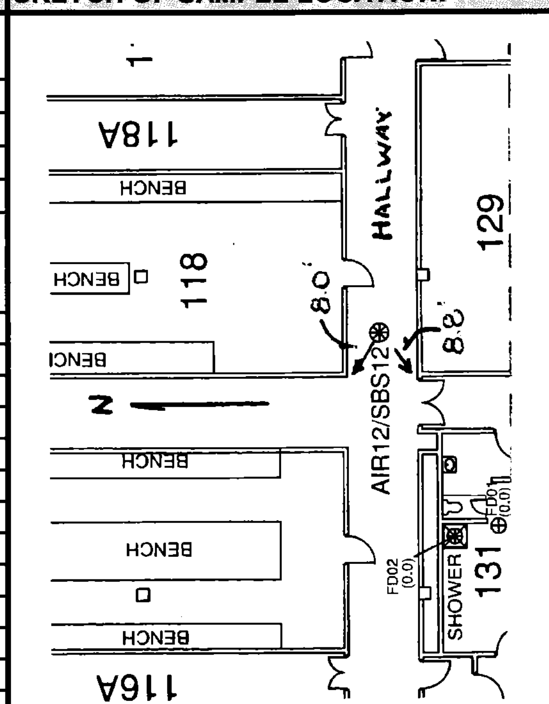
Calculated:
Flow Rate (ml/min): ~14.4
Sample Duration (min): 417

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 29 in. Hg
Gauge reading at the end of sampling: 3 in. Hg
Cylinder intake @ 5 ft.
Ambient Air PID Reading 0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0905	29	67	29.91
0908	26	66	29.91
1004	22	66	29.91
1103	18	68	29.91
1200	14	66	29.94
1305	10	65	29.94
1402	6	65	29.94
1502	3	65	29.91

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ——

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AIR 13
Project No.:	112G00645	**Sample Location:**	Room 109
Sample Date:	5-21-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1355	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [X] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0806	29	67
STOP	1355	3	65

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 839

Valve: 03055

Calculated:

Flow Rate (ml/min): ~17.2

Sample Duration (min): 349

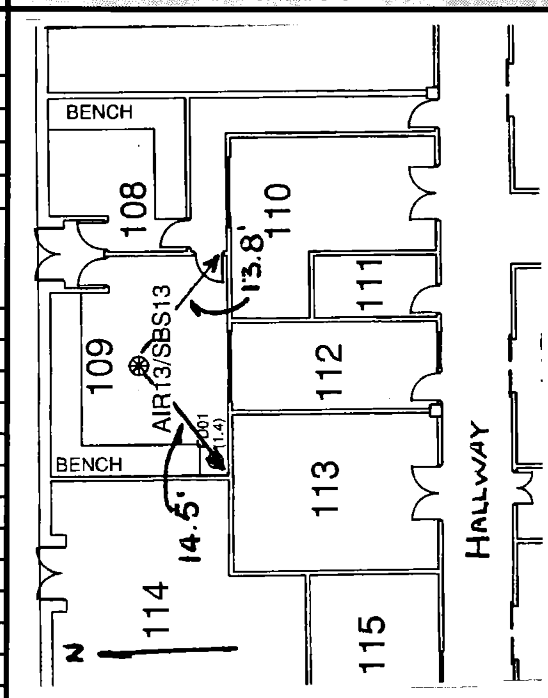
DOOR CLOSED

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:	3	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0806	29	67	29.91
0909	25	66	29.91
1006	21	66	29.91
1105	16	68	29.91
1202	11	66	29.94
1307	6	65	29.94
1355	3	65	29.94

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	AB 052113
Project No.:	112G00645	**Sample Location:**	Outside
Sample Date:	5·21·13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1622	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [ ] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [X] Other: [AMBIENT BLANK]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
NA	NA	NA	NA

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0818	29	51
STOP	1622	5	52

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12844
Valve: 04905

Calculated:
Flow Rate (ml/min): ~12.4
Sample Duration (min): 484

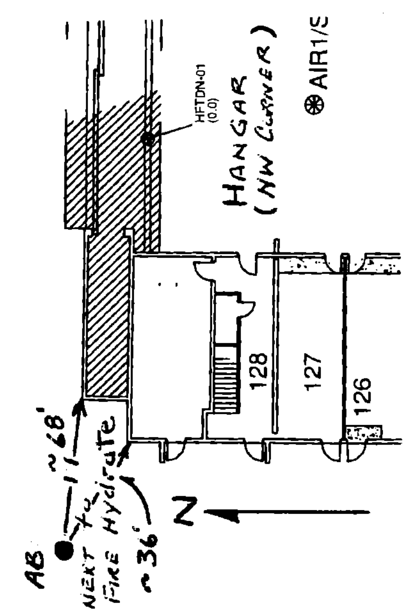
* NOTE:
USE WIND SPEED/DIRECTION FROM LOG BOOK #2684 PG 53

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	5	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)	~~WIND~~ * DIRECTION
0818	29	51	29.91	~~N~~
0920	27	51	29.91	~~N~~
1014	25	51	29.91	~~CALM~~
1116	21	50	29.91	~~W~~
1214	18	50	29.94	~~S~~
1312	15	50	29.94	
1415	11	50	29.94	
1515	9	50	29.91	
1614	6	52	29.97	
1622	5	52	29.97	

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ——

Signature(s): [signature]

A-7 SUB-SLAB SOIL GAS SAMPLE LOGS

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS1
Project No.:	112G00645	**Sample Location:**	HANGAR
Sample Date:	10/24/12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1616	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1346	1348	~1L	He=5 PID=0.3

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1350	29	82
STOP	1616	5	80

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number: TA
Canister: Ø844
Valve: 04847

Calculated:
Flow Rate (ml/min): ~44.1
Sample Duration (min): 136

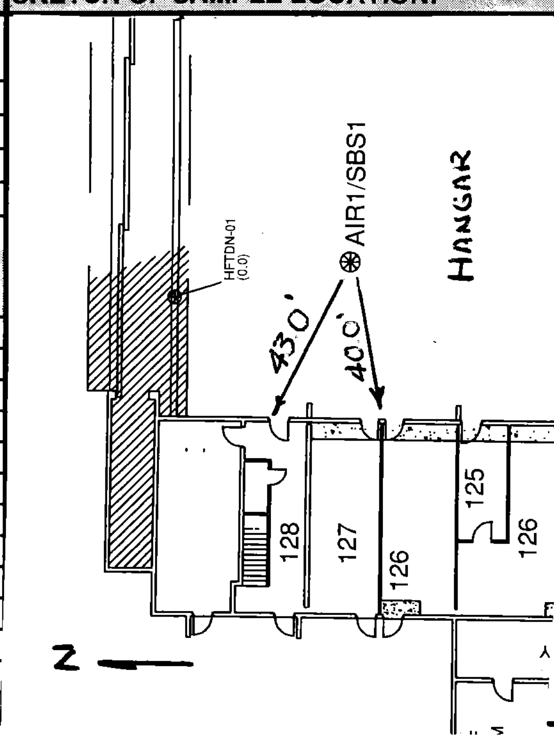
CONCRETE 15"
PID READING DOWN HOLE = 5.2ppm
NO CHEMICAL STORAGE

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	29	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	-16"	~~ft.~~
Ambient Air PID Reading	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1350	29	82	30.12
1420	24	81	30.12
1450	19	82	30.12
1520	13	82	30.12
1550	8	80	30.12
1616	5	80	30.12

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 2
Project No.:	112G00645	**Sample Location:**	HANGER
Sample Date:	10.24.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1530	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
TS ~~1239~~ 1255	1259	1L	Hg 8,000-2% PID 1.7

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1300	27.5	82
STOP	1530	4	82

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12843

Valve: 04907

Calculated:

Flow Rate (ml/min): ~40

Sample Duration (min): 150

CONCRETE 15"

NO CHEMICAL STORAGE

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg

Gauge reading at sample start up (on position): 27.5 in. Hg

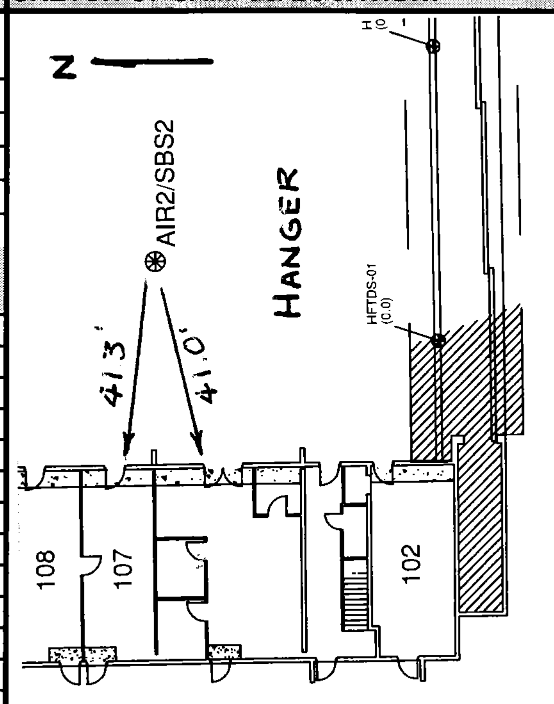
Gauge reading at the end of sampling: 4 in. Hg

Cylinder intake @ -1.5 ft.

Ambient Air PID Reading 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)	
1300	27.5	82	30.15	
1330	24.0	82	30.12	@ 1330
1400	18	82	30.12	
1500	9	82	30.12	
1530	4	82	30.12	

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 3
Project No.:	112G00645	**Sample Location:**	HANGAR
Sample Date:	10.24.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1132	**Canister Leak**	
Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]		**Check Date:**	NA
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]			

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0944	0946	1 L	He: 0 PID 1.7

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0947	30	76
STOP	1132	5	79

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12831

Valve: 04899

Calculated:

Flow Rate (ml/min): ~57.1

Sample Duration (min): 105

Concrete 15"

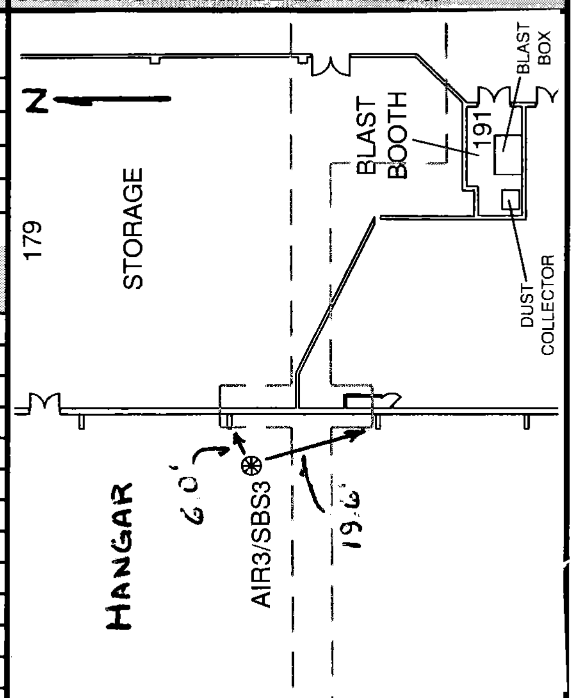
NO CHEMICAL STORAGE

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	-16"	~~ft~~
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0947	30	76	30.21
1017	23.5	79	30.21
1047	16	79	30.21
1117	9	80	30.21
1132	5	79	30.21

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Sample ID No.: SBS 4
Project No.: 112G00645
Sample Location: Room 173
Sample Date: 10.25.12
Sampled By: K. Simpson & T. Rojahn
Sample Time: 0930
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0735	0737	1 L	He=0 PID=0.2

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0738	28	67
STOP	0930	5	66

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 836
Valve: 02797

Calculated:
Flow Rate (ml/min): ~53.6
Sample Duration (min): 112

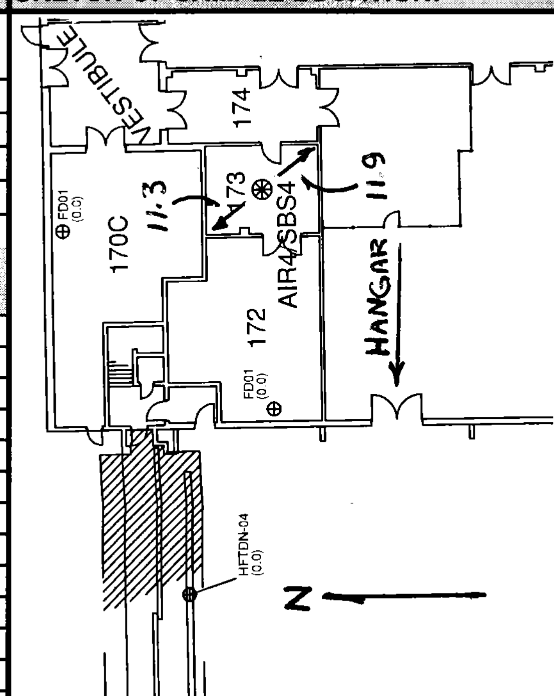
PID Down Hole = 0.8 ppm
Room Empty / No CHEMICAL Storage
CONCRETE 6"

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 28 in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ 7" ft.
Ambient Air PID Reading 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0738	28	67	30.30
0816	21	67	30.30
0846	14.5	66	30.32
0916	8	66	30.32
0930	5	66	30.32

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS5
Project No.:	112G00645	**Sample Location:**	Storage AREA
Sample Date:	10/24/12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1131	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0904	0906	1L	0.0 (He) PID = 5.0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0909	30+	68
STOP	1131	5	69

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12845

Valve: 04908

Calculated:

Flow Rate (ml/min): ~42.3

Sample Duration (min): 142

OPEN AREA - Storage Empty

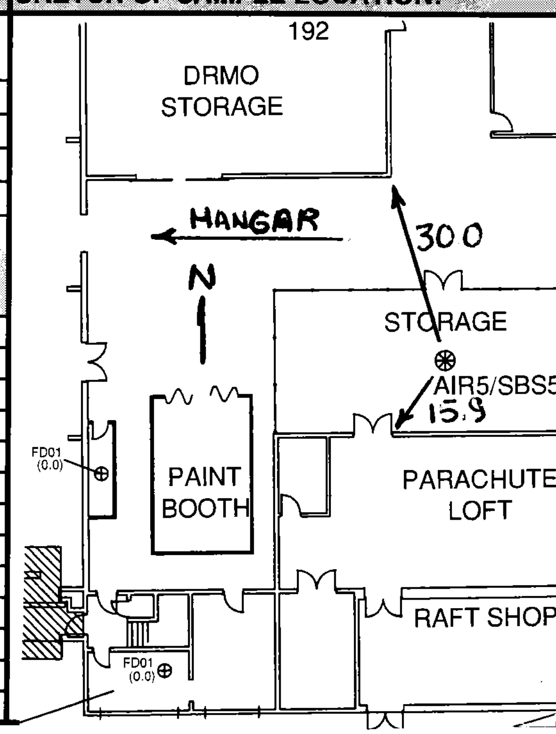
Concrete: 8"

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	~ 9"	ft.
Ambient Air PID Reading	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0909	30+	68	30.21
0942	26	68	30.21
1012	21	68	30.21
1042	15	68	30.21
1112	9	68	30.21
1127	6	69	30.21
1131	5	69	30.21

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 10/25/12
Sample Time: 1238
Sample ID No.: SBS 6
Sample Location: 155
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1034	1036	1L	HE = 0 PID = 0.3

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg) REG	DUP	TEMPERATURE (°F)
START	1038	30	28	67
STOP	1238	6	4	68

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:	REG	DUP
Canister:	845	12840
Valve:	02800	02782

Calculated:
Flow Rate (ml/min): ~50
Sample Duration (min): 120

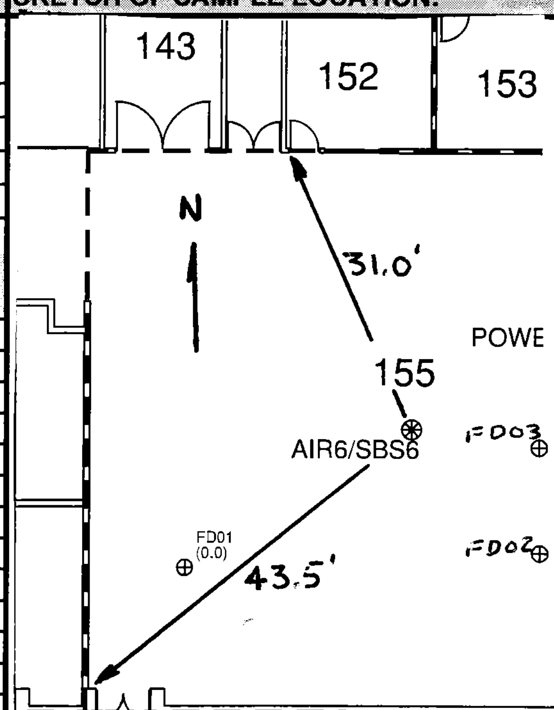
PID Down Hole = 6.2 ppm
Concrete 6"
No CHEMICAL Storage

COMMENTS:

	REG	DUP	
Gauge reading prior to start of sampling (off position):	0	0	in. Hg
Gauge reading at sample start up (on position):	30	28	in. Hg
Gauge reading at the end of sampling:	6	4	in. Hg
Cylinder intake @	-7"		ft
Ambient Air PID Reading	0.0		ppm

Time	Canister Pressure (in Hg) Reg.	Dup	Temp (°F)	Barometric Pressure (in Hg)
1038	30	28	67°	30.35
1108	25	22	68	30.35
1138	19	16	68	30.35
1208	12.5	9.5	68	30.35
1238	6	4	68	30.35

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: FD102512

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 10/25/12
Sample Time: 1533
Sample ID No.: SBS 7
Sample Location: Room 160
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1335	1337	1L	He = 0 PID 0.5

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1339	26	66
STOP	1533	5	72

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12837
Valve: ~~TR 02799~~ 02799

Calculated:
Flow Rate (ml/min): ~52.6
Sample Duration (min): 114

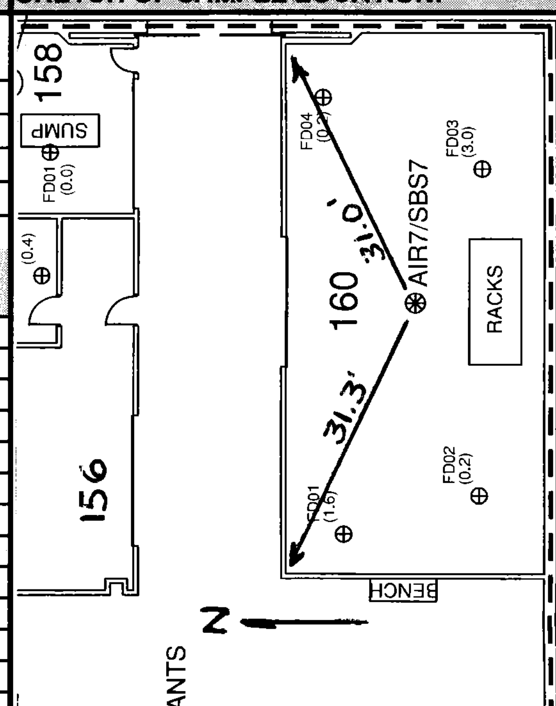
PID Down Hole = 2.6 ppm
Concrete 6"
NO CHEMICAL STORAGE

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 26 in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ 7" ~~ft.~~
Ambient Air PID Reading 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1339	26	66	30.30
1409	23	68	30.30
1439	17	72	30.30
1509	9.5	72	30.30
1533	5	72	30.27

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 8
Project No.:	112G00645	**Sample Location:**	SBS8-Room 151
Sample Date:	10-26-12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1036	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He) PID / He
0846	0848	1L	0.2 / 0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0950	28.5	70
STOP	1036	5	70

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12828
Valve: 02798

Calculated:
Flow Rate (ml/min): ~56.6
Sample Duration (min): 106

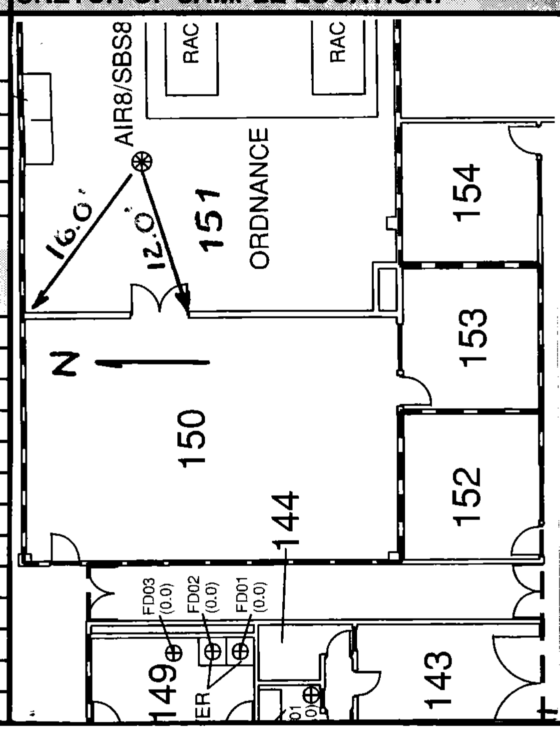
Concrete = 6"
PID Down Hole = 0.9 ppm
No Chemical Storage

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	28.5	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	7"	~~ft~~
Ambient Air PID Reading	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0850	28.5	70	30.24
0920	23	70	30.24
0950	15.5	70	30.24
1020	9	70	30.24
1036	5	70	30.24

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 9
Project No.:	112G00645	**Sample Location:**	ROOM 138
Sample Date:	10/24/12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:		**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1630	1632	1 L	He: 25 PID: 0.5

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1637	30+	70
STOP			

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: BAD ~~12838~~ 12846

Valve: 04904

Calculated:

Flow Rate (ml/min): ~42

Sample Duration (min): 143

CONCRETE: 6"

NO CHEMICAL STORAGE

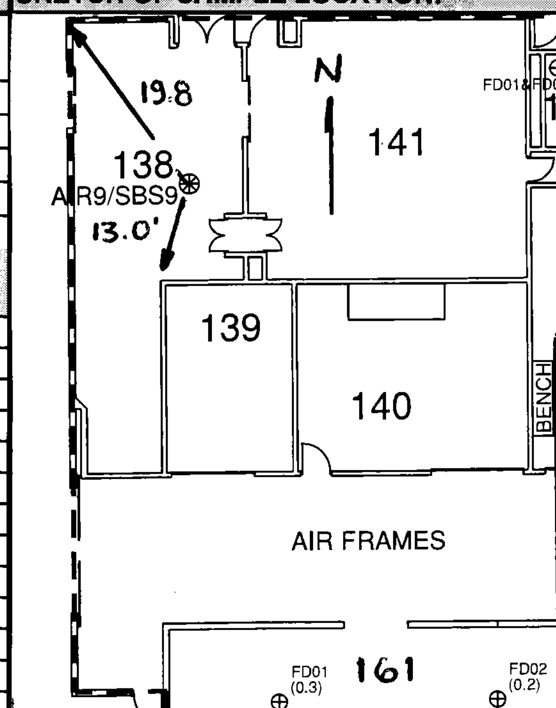
PID DOWN HOLE = 3.1 ppm

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	3" ft.	
Ambient Air PID Reading	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1637	30+	70	30.12
1707	25	68	30.12
1737	19	68	30.12
1807	13	67	30.12
1837	8	67	30.12
1900	5	67	30.15

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 10
Project No.:	112G00645	**Sample Location:**	ROOM 157
Sample Date:	10.25.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1752	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

PID He

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1544	1546	1L	PID: 0.7 He = 0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1548	28	70
STOP	1752	5	69

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12827

Valve: 02783

Calculated:

Flow Rate (ml/min): ~48.4

Sample Duration (min): 124

Concrete = 6"

PID READING DOWN HOLE = 13.5 ppm

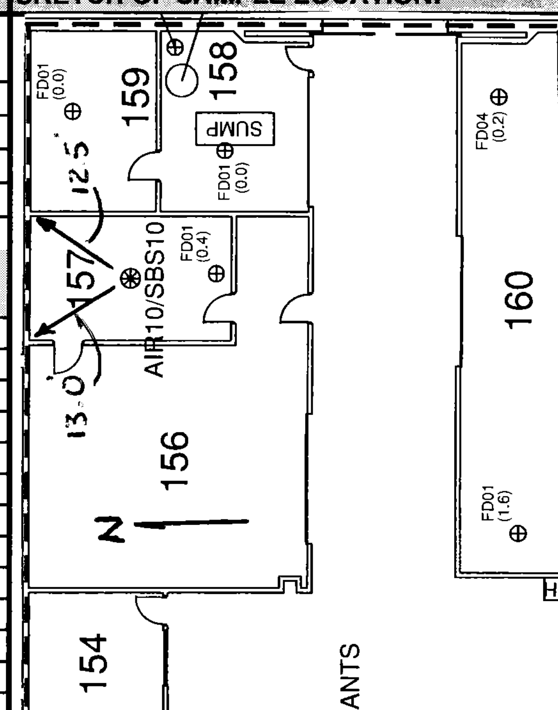
NO CHEMICAL STORAGE

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	28	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	-7"	~~ft.~~
Ambient Air PID Reading	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1548	28	70	30.30
1618	23	70	30.27
1648	18	70	30.27
1718	12	70	30.27
1748	6	69	30.27
1752	5	69	30.21

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 11
Project No.:	112G00645	**Sample Location:**	Room 161
Sample Date:	10/25/12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1015	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0810	0812	1L	He = 0 PID = 0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0813	30	67
STOP	1015	5	67

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12850

Valve: 02796

Calculated:

Flow Rate (ml/min): ~49.2

Sample Duration (min): 122

PID Reading down hole 0.0 ppm

NO CHEMICAL STORAGE

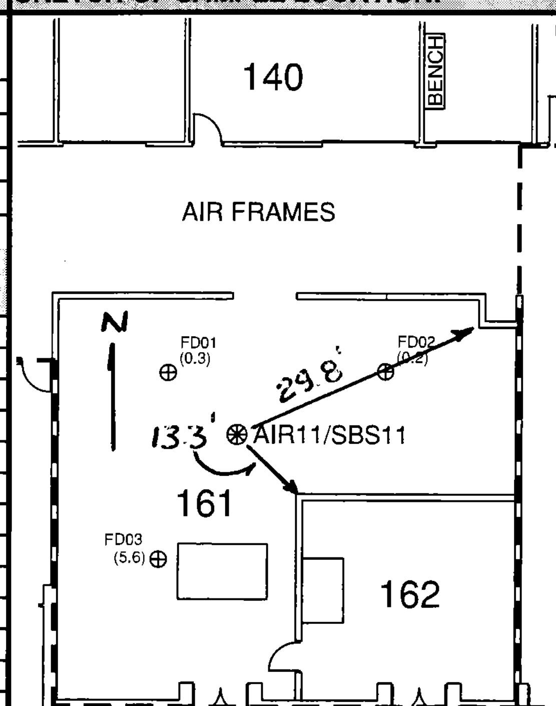
Concrete = 6"

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	~7"	ft
Ambient Air PID Reading	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0813	30	67	
0843	24.25	66	
0913	18.25	66	
0943	12	66	
1013	5.5	67	
1015	5	67	

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): Tony Rojahn

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS12
Project No.:	112G00645	**Sample Location:**	Hallway
Sample Date:	10.25.12	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1238	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0951	0953	1L	He = 0 PID = 0.6

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0958	29	66
STOP	1238	5	66

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number: BAD CAN?

Canister: ~~12588~~ 12829

Valve: 04834

Calculated:

Flow Rate (ml/min): ~37.5

Sample Duration (min): 160

PID Down Hole - 3.1ppm

Concrete 6"

NO CHEMICAL STORAGE

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg

Gauge reading at sample start up (on position): 29 in. Hg

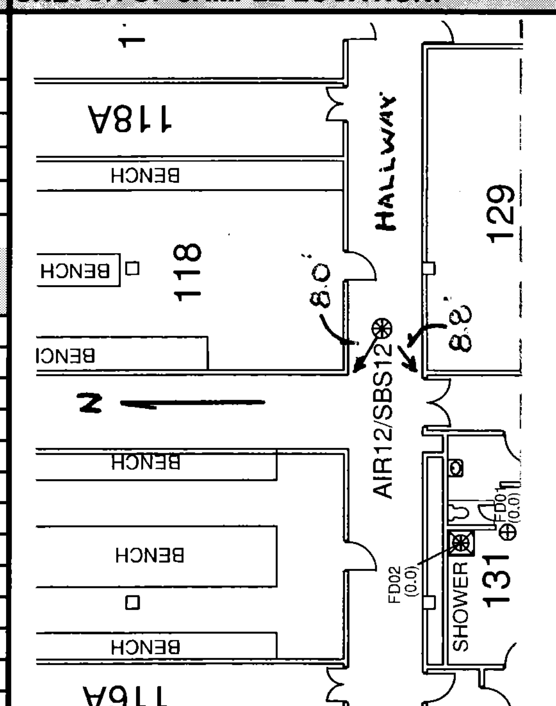
Gauge reading at the end of sampling: 5 in. Hg

Cylinder intake @ -7" ft.

Ambient Air PID Reading 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0958	29	66	30.35
1038	25	66	30.35
1108	20	67	30.35
1138	15	67	30.35
1208	10	66	30.35
1238	5	66	30.32

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 10/25/12
Sample Time: 1518
Sample ID No.: SBS13
Sample Location: Room 109
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1308	1310	1L	He= 0 PID= 0.7

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1312	30	67
STOP	1518	5	65

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 826
Valve: 04828

Calculated:
Flow Rate (ml/min): ~47.6
Sample Duration (min): 126

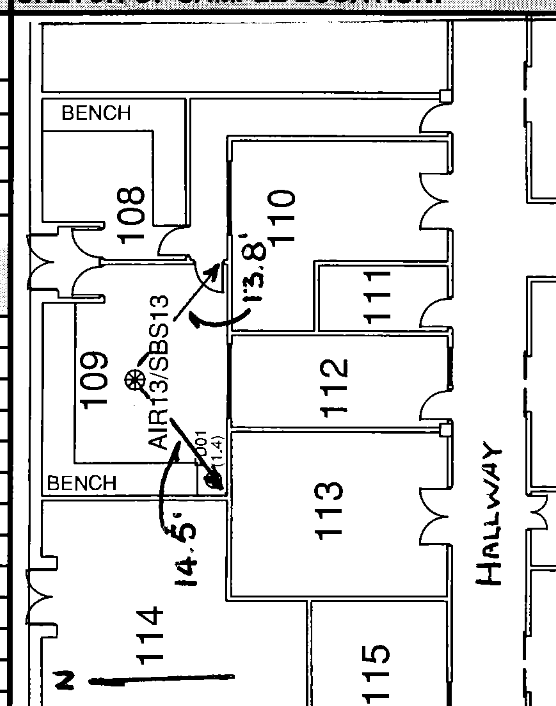
PID Down Hole = 5.6 PPM
Concrete = 6"
No Chemical Storage

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 30 in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ .7" ft.
Ambient Air PID Reading 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1312	30	67	30.32
1342	28	65	30.30
1412	21	65	30.30
1442	13	65	30.30
1512	10	65	30.30
1518	5	65	30.30

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): Tony Rojahn

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Sample ID No.: SBS 1
Project No.: 112G00645
Sample Location: HANGAR
Sample Date: 5-22-13
Sampled By: K. Simpson & T. Rojahn
Sample Time: 1105
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
TR ~~0835~~ 0921	0923 ~~0837~~ TR	1 L	225

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0925	30	60
STOP	1105	5	60

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 831
Valve: 02796

Calculated:
Flow Rate (ml/min): ~60.0
Sample Duration (min): 100

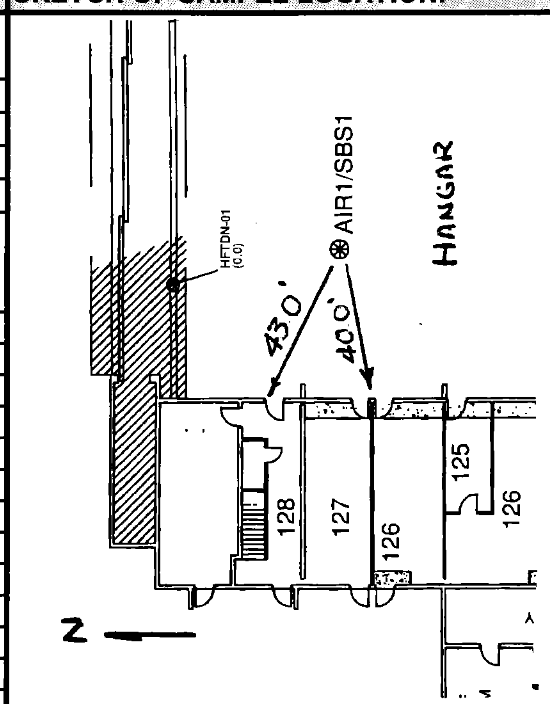
8" Hole Depth

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	~0.7	ft.
Ambient Air PID Reading	0.0	ppm
Sub-Slab PID READING	0.1	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0925	30	60	29.88
0955	22	60	29.88
1025	14	60	29.85
1055	5.5	60	29.85
1105	5	60	

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS2
Project No.:	112G00645	**Sample Location:**	HANGAR
Sample Date:	5.22.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1046	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0806	0808	1 L	0.0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0810	29	60
STOP	1046	5	60

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12833
Valve: 05589

Calculated:
Flow Rate (ml/min): ~38.5
Sample Duration (min): 156

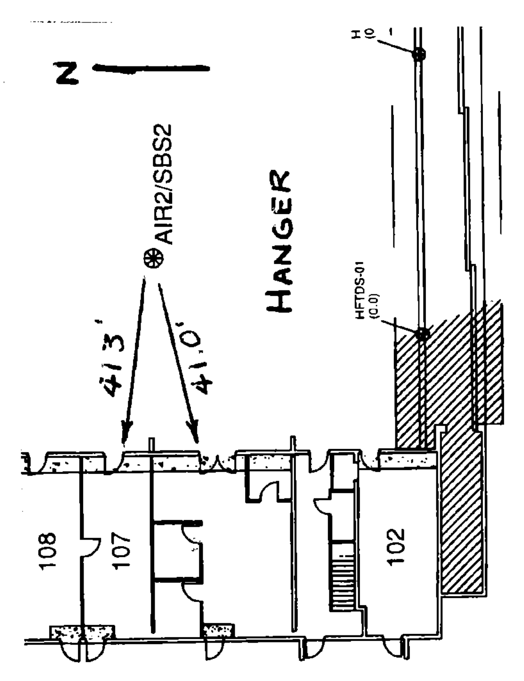
Hole depth = 3"

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 29 in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ ~0.7 ft.
Ambient Air PID Reading 0.0 ppm
SUB SLAB PID READING 3.7 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0810	29	60	29.85
0840	24	60	29.85
0920	18	60	29.88
0950	13	60	29.88
1020	8.2	60	29.85
1046	5	60	29.85

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

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Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS3
Project No.:	112G00645	**Sample Location:**	HANGAR
Sample Date:	5-22-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1337	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from; Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1136	1138	1L	75

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1140	28	60
STOP	1337	4.5	60

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12826

Valve: 02793

Calculated:

Flow Rate (ml/min): ~ 513

Sample Duration (min): 117

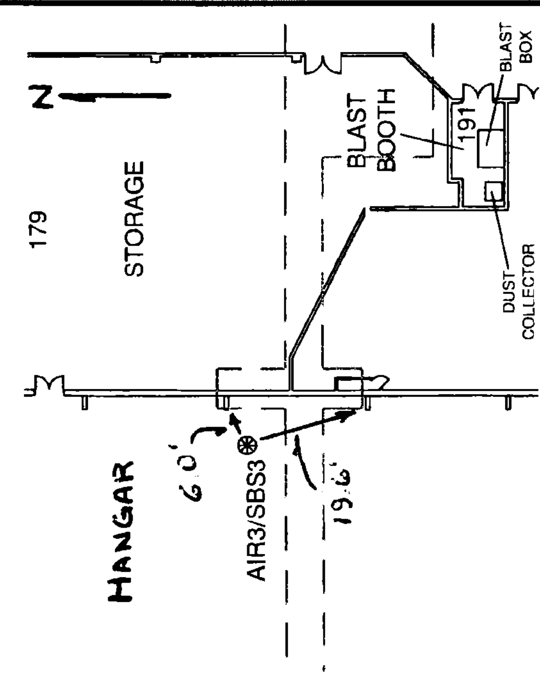
1/2" Hole

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	28	in. Hg
Gauge reading at the end of sampling:	4.5	in. Hg
Cylinder intake @	~ 0.6	ft.
Ambient Air PID Reading	0	ppm
SUB SLAB PID READING	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1140	28	60	29.88
1210	22	60	29.85
1240	15	60	29.85
1310	9	60	29.88
1337	4.5	60	29.88

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

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Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 4
Project No.:	112G00645	**Sample Location:**	Room 173
Sample Date:	5-23-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1232	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1046	1048	1L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1049	28	61
STOP	1232	5	61

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12830

Valve: 02785

Calculated:

Flow Rate (ml/min): ~58.3

Sample Duration (min): 103

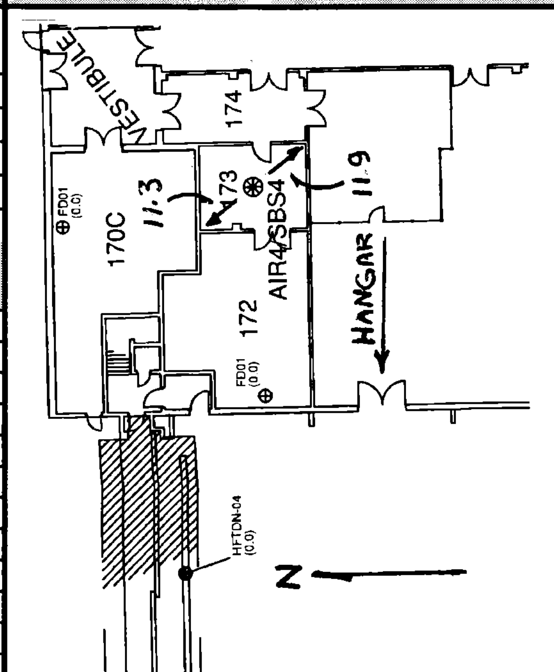
8" Hole

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	28	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	~0.6	ft.
Ambient Air PID Reading	0	ppm
SUB SLAB PID READING	0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1049	28	61	29.85
1119	21.5	61	29.82
1149	15	61	29.82
12~~19~~	8	61	29.82
1232	5	61	29.82

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ——

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 5
Project No.:	112G00645	**Sample Location:**	STORAGE AREA
Sample Date:	5.22.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1253	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1100	1103	1 L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1105	28	65
STOP	1253	4	63

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 14033
Valve: 02782

Calculated:
Flow Rate (ml/min): ~55.6
Sample Duration (min): 108

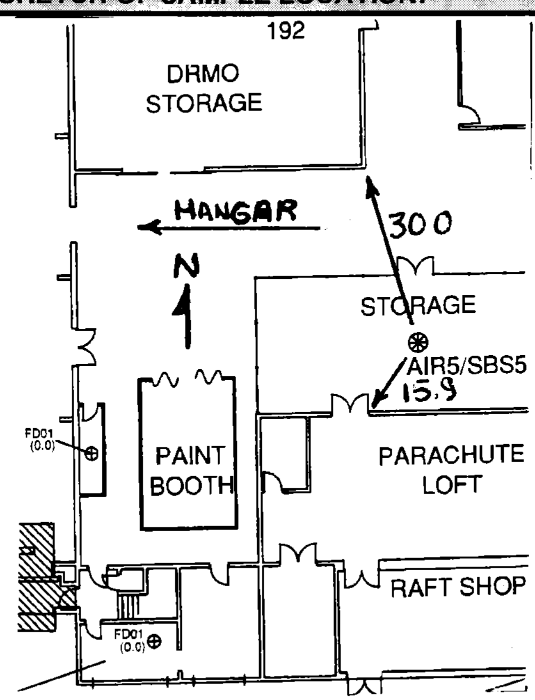
5" Hole Depth

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	28	in. Hg
Gauge reading at the end of sampling:	4	in. Hg
Cylinder intake @	~5"	ft.
Ambient Air PID Reading	0.0	ppm
SUB SLAB PID READING	0.2	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1105	28	65	29.88
1140	20	62	29.88
1210	14	62	29.85
1240	6.5	63	29.85
1253	4	63	29.85

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ______

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Project No.: 112G00645
Sample Date: 5-23-13
Sample Time: 1210 / 0000
Sample ID No.: SBS 6
Sample Location: Room 155
Sampled By: K. Simpson & T. Rojahn
Canister Leak Check Date: NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [X] DUP
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1017	1019	1L	0

SAMPLING INFORMATION

	TIME SBS 6	TIME DUP	CANISTER PRESSURE (Inches Hg) SBS 6	CANISTER PRESSURE (Inches Hg) DUP	TEMPERATURE (°F)
START	1020		27	28	64
STOP	1210		3	5	64

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

	SBS 6	DUP
Serial Number:		
Canister:	941	12842
Valve:	02788	04834

Calculated:	SBS 6	DUP
Flow Rate (ml/min):	~54.5	~54.5
Sample Duration (min):	110	110

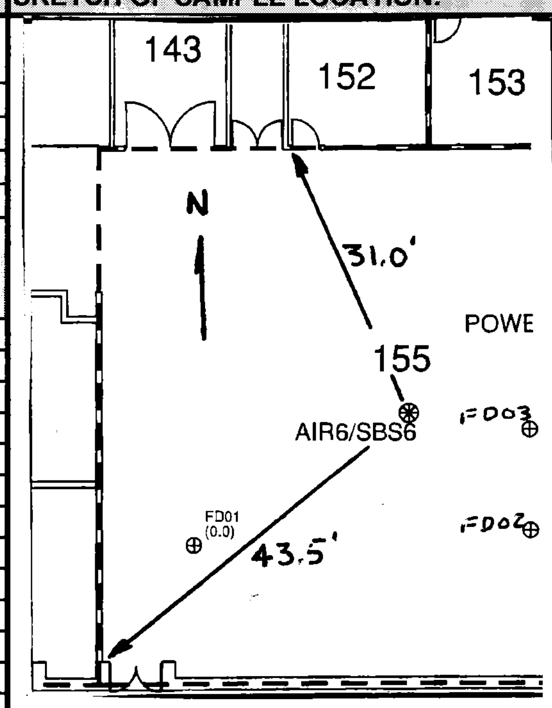
8" Hole

COMMENTS:

	SBS 6	DUP	
Gauge reading prior to start of sampling (off position):	0	0	in. Hg
Gauge reading at sample start up (on position):	27	28	in. Hg
Gauge reading at the end of sampling:	3	5	in. Hg
Cylinder intake @	~0.6	~0.6	ft.
Ambient Air PID Reading	0	0	ppm
SUB SLAB PID READING	1.8	1.8	ppm

Time	Canister Pressure SBS 6 (in Hg)	Canister Pressure DUP (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1020	27	28	64	29.85
1050	21	23	64	29.85
1120	14	16	64	29.82
1150	7	10	64	29.82
1210	3	5	64	29.82

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: FD052313

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS7
Project No.:	112G00645	**Sample Location:**	Room 160
Sample Date:	5.22.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1726	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1549	1551	1L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1553	26.5	63
STOP	1726	5	62

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 833
Valve: 02784

Calculated:
Flow Rate (ml/min): ~645
Sample Duration (min): 93

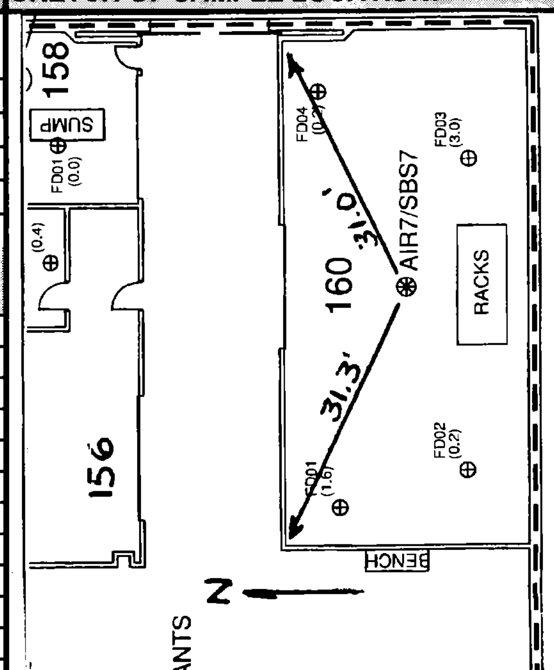
8" Hole Depth

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg
Gauge reading at sample start up (on position): 26.5 in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ ~0.6 ft.
Ambient Air PID Reading 0 ppm
SUB SLAB PID READING 0.1 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1553	26.5	63	29.85
1623	19.5	63	29.85
1653	12	62	29.85
1723	6	62	29.88
1726	5	62	29.88

SKETCH OF SAMPLE LOCATION:



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Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 8
Project No.:	112G00645	**Sample Location:**	Room 151
Sample Date:	5.23.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1630	**Canister Leak**	
Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]		**Check Date:**	NA
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]			

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1425	1427	1 L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1428	30	63
STOP	1630	5	

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 844

Valve: 04903

Calculated:

Flow Rate (ml/min): ~49.2

Sample Duration (min): 122

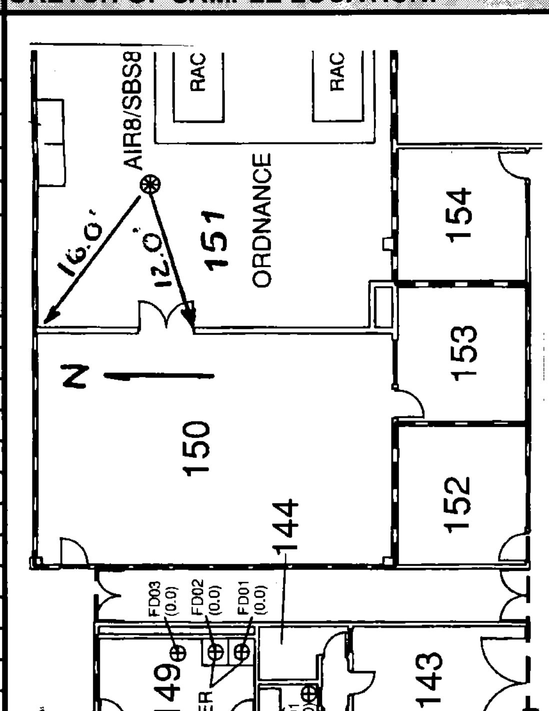
8" HOLE

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	~0.6	ft.
Ambient Air PID Reading	0	ppm
SUB SLAB PID READING	0.2	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1428	30	63	29.82
1458	23	63	29.82
1528	17	63	29.82
1558	11	63	29.82
1630	5	63	29.79

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ——

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name: Bldg. 250/Hangar 4 NAS Brunswick
Sample ID No.: SBS 9
Project No.: 112G00645
Sample Location: Room 138
Sample Date: 5-23-13
Sampled By: K. Simpson & T. Rojahn
Sample Time: 1004
Canister Leak Check Date: NA
Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0755	0757	1 L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0759	30+	64
STOP	1004	5	61

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 12853
Valve: 04845

Calculated:
Flow Rate (ml/min): ~48.0
Sample Duration (min): 125

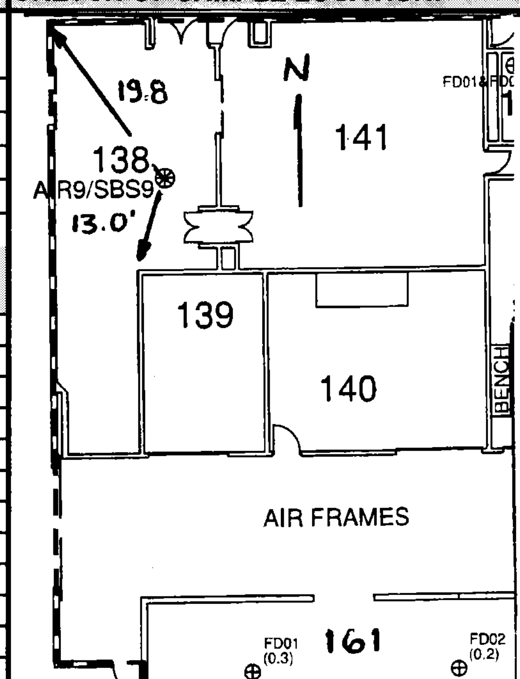
8" HOLE DEPTH

COMMENTS:

Gauge reading prior to start of sampling (off position):	2	in. Hg
Gauge reading at sample start up (on position):	30+	in. Hg
Gauge reading at the end of sampling:	5	in. Hg
Cylinder intake @	~0.6	ft.
Ambient Air PID Reading	0.0	ppm
SUB SLAB PID READING	0.0	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0759	30+	64	29.85
0829	26	61	29.85
0859	19	61	29.85
0929	12.5	61	29.85
0959	5.5	61	29.85
1004	5	61	29.85

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 10
Project No.:	112G00645	**Sample Location:**	Room 157
Sample Date:	5.23.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1413	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1227	1229	1 L	0 ✓

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1230	29	63
STOP	1413	5	63

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 824

Valve: 02789

Calculated:

Flow Rate (ml/min): ~ 58.3

Sample Duration (min): 103

8" HOLE

COMMENTS:

Gauge reading prior to start of sampling (off position): 0 in. Hg

Gauge reading at sample start up (on position): 29 in. Hg

Gauge reading at the end of sampling: in. Hg

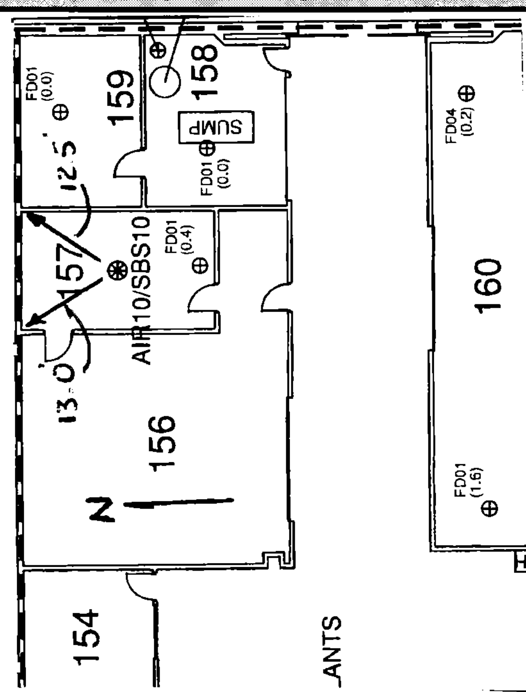
Cylinder intake @ ~0.6 ft.

Ambient Air PID Reading 0 ppm

SUB SLAB PID READING 14.5 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1230	29	63	29.82
1300	23	63	29.82
1330	17	63	29.82
1400	9	63	29.82
1413	5	63	29.82

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: —

Signature(s): [signature]

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 11
Project No.:	112G00645	**Sample Location:**	Room 161
Sample Date:	5.22.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1535	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]
Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1317	1319	1L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1320	30+	63
STOP	1535	5	63

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:
Canister: 836
Valve: 02786
8" Hole Depth

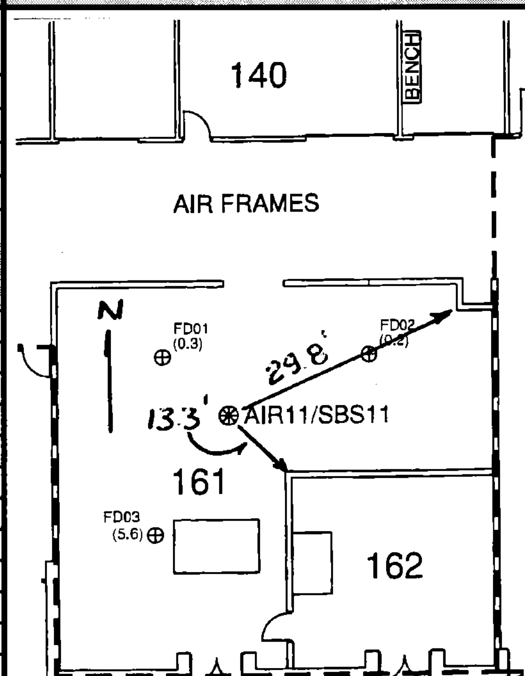
Calculated:
Flow Rate (ml/min): ~44.4
Sample Duration (min): 135

COMMENTS:

Gauge reading prior to start of sampling (off position): 2 in. Hg
Gauge reading at sample start up (on position): 30+ in. Hg
Gauge reading at the end of sampling: 5 in. Hg
Cylinder intake @ ~0.5 ft.
Ambient Air PID Reading 0.0 ppm
SUB SLAB PID READING 0.0 ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1320	30+	63	29.88
1350	26	63	29.88
1420	20	63	29.88
1450	13	63	29.88
1520	7.5	63	29.85
1535	5	63	29.85

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS12
Project No.:	112G00645	**Sample Location:**	Hallway
Sample Date:	5.22.13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	1555	**Canister Leak**	
Soil Gas from:	Sub-Slab [X] Near Slab [ ] QC [ ]	**Check Date:**	NA
Air Sample from:	Indoor [ ] Outdoor [ ] Other: [ ]		

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
1400	1402	1L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	1403	28	64
STOP	1555	4	64

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 12838

Valve: 02787

Calculated:

Flow Rate (ml/min): ~ 53.6

Sample Duration (min): 112

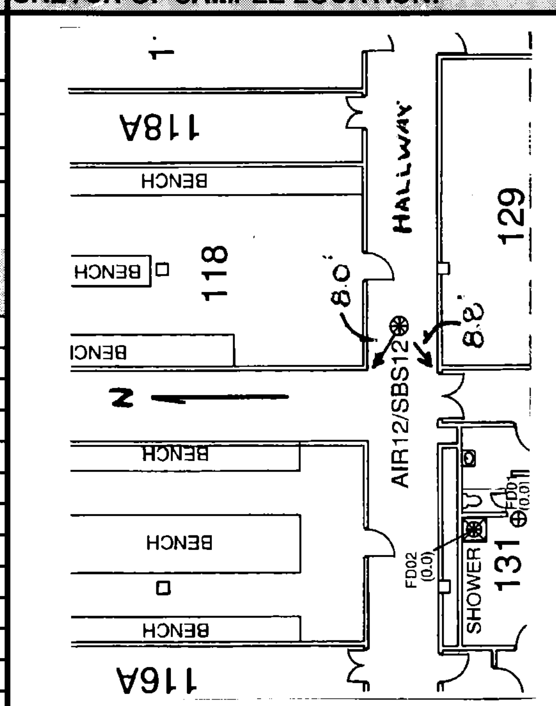
8" DEPTH OF HOLE

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	28	in. Hg
Gauge reading at the end of sampling:	4	in. Hg
Cylinder intake @	~0.5	ft.
Ambient Air PID Reading	0	ppm
SUB SLAB PID READING	0.5	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
1403	28	64	29.88
1433	23	64	29.88
1503	15.5	64	29.85
1533	9	64	29.85
1555	4	64	29.85

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ——

Signature(s):

Tetra Tech NUS, Inc.

AIR & SOIL GAS SAMPLE LOG SHEET

Project Site Name:	Bldg. 250/Hangar 4 NAS Brunswick	**Sample ID No.:**	SBS 13
Project No.:	112G00645	**Sample Location:**	Room 109
Sample Date:	5-23-13	**Sampled By:**	K. Simpson & T. Rojahn
Sample Time:	0953	**Canister Leak Check Date:**	NA

Soil Gas from: Sub-Slab [X] Near Slab [ ] QC [ ]

Air Sample from: Indoor [ ] Outdoor [ ] Other: [ ]

PURGE INFORMATION

START TIME	STOP TIME	VOLUME PURGED	LEAK TEST RESULT (ppm of He)
0820	0822	1 L	0

SAMPLING INFORMATION

	TIME	CANISTER PRESSURE (Inches Hg)	TEMPERATURE (°F)
START	0823	30	60
STOP	0953	4	60

SAMPLE COLLECTION INFORMATION:

ANALYSIS	CONTAINER REQUIREMENTS	COLLECTED	Other
TO-15	SUMMA Canister	Yes	NA

NOTES / OBSERVATIONS:

Serial Number:

Canister: 14037

Valve: 02800

Calculated:

Flow Rate (ml/min): ~ 66.7

Sample Duration (min): 90

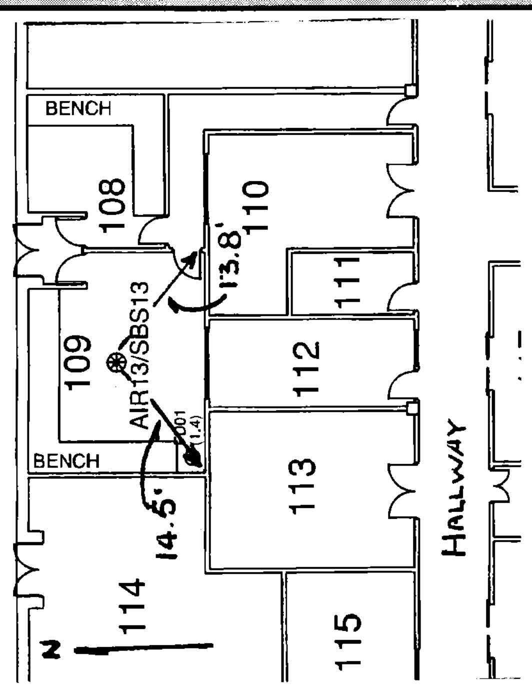
8" HOLE DEPTH

COMMENTS:

Gauge reading prior to start of sampling (off position):	0	in. Hg
Gauge reading at sample start up (on position):	30	in. Hg
Gauge reading at the end of sampling:	4	in. Hg
Cylinder intake @	~ 0.6	ft.
Ambient Air PID Reading	0	ppm
SUB SLAB PID READING	1.5	ppm

Time	Canister Pressure (in Hg)	Temp (°F)	Barometric Pressure (in Hg)
0823	30	60	29.85
0853	21.5	60	29.85
0923	13	60	29.85
0953	4	60	29.85

SKETCH OF SAMPLE LOCATION:



Duplicate ID No.: ———

Signature(s): [signature]

APPENDIX B

MONITORING WELL SURVEY DATA

Tetra Tech NUS, Inc.
NASB
Brunswick, ME

Spivey Surveying Services
P. O. Box 901
Brunswick, ME 04011
207-721-0511
spiveysurvey@comcast.net

Building 250/Hanger 4/Building 9 area

June 7, 2012

MW	Monitoring well, at top of PVC pipe
OCASE	Top of iron outer casing
SPOT	Adjacent ground elevation -- only appears if well casing is not at ground level

Horizontal coordinates are MSPCS NAD83 West Zone, U.S. Survey Feet
Elevations are NAVD88, in feet

Point No.	Northing	Easting	Elevation	Description	
1261	386217.91	3015001.47	58.51	MW/B250-03	
1262	386217.98	3015001.67	59.1	OCASE	
1263	386153.23	3015023.17	57.71	MW/B250-06	
1264	386153.41	3015023.4	58.01	OCASE	
1265	386244.48	3015133.3	56.86	MW/B250-07	
1266	386244.58	3015133.56	57.18	OCASE	
1267	386195.43	3015273.02	56.99	MW/09-22	Note: Elev. is top of inner 4" steel casing, not top of PVC pipe, per instructions from B. Geringer
1268	386195.44	3015273.38	57.97	OCASE	
1269	385952.86	3015271.93	57.75	MW/09-227	
1270	385952.92	3015271.81	57.88	OCASE	
1271	385952.68	3015271.82	55.05	SPOT	
1272	385720.39	3015416.28	55.08	MW/09-01	
1273	385720.3	3015416.37	55.25	OCASE	
1274	385720.44	3015416.66	52.61	SPOT	
1275	386621.82	3015255.07	61.32	MW/09-204	
1276	386621.67	3015255.06	61.65	OCASE	
1277	386621.52	3015255.38	58.56	SPOT	
1278	386589.57	3014865.27	60.93	MW/B250-05	
1279	386589.32	3014865.34	61.45	OCASE	
1280	386120.34	3014684.43	57.92	MW/B250-08	
1281	386120.24	3014684.22	58.41	OCASE	
1282	386212.13	3014582.97	59.93	MW/B250-01	
1283	386211.87	3014582.92	60.22	OCASE	
1284	386265.28	3014815.23	60.81	MW/B250-02	
1285	386265.21	3014815.03	61.22	OCASE	
1286	386578.13	3014715.98	60.54	MW/B250-04	
1287	386578.33	3014716.05	60.99	OCASE	

Tetra Tech NUS, Inc.
NASB
Brunswick, ME

Spivey Surveying Services
P. O. Box 901
Brunswick, ME 04011
207-721-0511
spiveysurvey@comcast.net

Additional points for
Building 250/Hanger 4 area

October 8, 2012

MW	Monitoring well, at top of PVC pipe
OCASE	Top of iron outer casing
SPOT	Adjacent ground elevation
BM	Bench Mark = Vertical Control
PKS	P-K nail in pavement = Horizontal Control

Horizontal coordinates are MSPCS NAD83 West Zone, U.S. Survey Feet
Elevations are NAVD88, in feet

Point No.	Northing	Easting	Elevation	Description	
74	386046.61	3015195.08	55.54	PKS	
93	386577.82	3015010.84	59.75	PKS	
1288	386558.00	3014850.94	61.55	MW/B250-15	
1289	386558.01	3014850.88	61.72	OCASE	
1290	386557.66	3014850.55	61.60	SPOT	
1291	386655.48	3014657.10	60.91	MW/B250-14	
1292	386655.54	3014657.18	61.16	OCASE	
1293	386655.18	3014656.94	61.18	SPOT	
1294	386515.02	3014487.23	60.91	MW/B250-13	
1295	386515.12	3014487.18	61.30	OCASE	
1296	386514.65	3014487.29	61.30	SPOT	
1297	386512.32	3014475.66	61.11	MW/B250-12	
1298	386512.30	3014475.57	61.31	OCASE	
1299	386511.71	3014475.60	61.33	SPOT	
1300	386061.73	3015181.01	57.08	BM	Aluminum nail in southwest side of utility pole FP 3-21/127
1301	386587.30	3015030.99	62.54	BM	Bonnet bolt on hydrant - bolt next to "R" in "MUELLER"
1302	386267.47	3014862.72	61.37	MW/B250-11	
1303	386267.43	3014862.75	61.67	OCASE	
1304	386267.73	3014863.63	61.52	SPOT	
1305	386242.46	3014706.27	60.46	MW/B250-10	
1306	386242.36	3014706.40	60.69	OCASE	
1307	386242.99	3014706.10	60.70	SPOT	
1308	386241.46	3014571.73	60.65	MW/B250-09	
1309	386241.49	3014571.81	60.83	OCASE	
1310	386240.94	3014571.72	60.82	SPOT	

APPENDIX C

CHAIN-OF-CUSTODY FORMS AND ANALYTICAL RESULTS

C-1 CHAIN-OF-CUSTODY FORMS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech
Contact: Chuck Race
Phone #: (978) 474-8400
Fax #: (978) 474-8499
Address: 250 Andover St. # 200
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: NASB- Building 250 GW Investigation / 112G00958
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Brian Geringer / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER:
REMARKS:
SHIPPING INFO: ❐ FED EX ❐ UPS ❐ CLIENT
AIRBILL NO:
TEMP°C ❐ TEMP BLANK ❐ INTACT ❐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOCs (Filt. ❐Y ❐N)	VPH (Filt. ❐Y ❐N)	EPH (Filt. ❐Y ❐N)	TAL Metals (Filt. ❐Y ❐N)	Filt. ❐Y ❐N	Filt. ❐Y ❐N	Filt. ❐Y ❐N	Filt. ❐Y ❐N	Filt. ❐Y ❐N	Filt. ❐Y ❐N
	MW-B250-TB01-060612	06/06/12 / 0730	AQ	4	X	X								
	MW-B250-03-0612	/ 1000		7	X	X	X	X	DUP01					
	MW-B250-08-0612	/ 1345		6	X	X	X							
	MW-B250-DUP01-060612	/ –		7	X	X	X	X						
		/												
		/												
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		/												
		/												

COMMENTS
ONE WEEK TAT

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	6/7/12 0730	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech
Contact: Chuck Race
Phone #: (978) 474-8400
Fax #: (978) 474-8499
Address: 250 Andover St. #200
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: NASB-Building 250 Investigation / 112G00958
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Brian Geringer / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOCs (Filt. ☐Y ☐N)	VPH (Filt. ☐Y ☐N)	EPH (Filt. ☐Y ☐N)	TAL Metals (Filt. ☐Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MW-B250-TB02-060712	06/07/12 / 0700	AQ	4	X	X								
	MW-B250-01-0612	/ 1140		6	X	X	X							
	-02-0612	/ 1520		6	X	X	X							
	-04-0612	/ 1245		6	X	X	X							
	-05-0612	/ 1005		6	X	X	X							
	-06-0612	06/08/12 / 0855		6	X	X	X							
	-07-0612	/ 0920		20	X	X	X	X						
	-RB01-060812	/ 1010		7	X	X	X	X						
	-FB01-060812	/ 1000		7	X	X	X	X						

COMMENTS
ONE WEEK TAT - MW-B250-07-0612 is QC

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	6/8/12 1545	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech
Contact: Jim Forrelli
Phone #: (978) 474-8400
Fax #: (978) 474-8499
Address: 250 Andover St. #200
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: Former NASB BLD. 250 INV. / 112600958
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Brian Geringer / Bi Gr
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE
PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOCs (Filt. ☐Y ☒N)	EDB (Filt. ☐Y ☒N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MW-B250-TB01-100112	10/01/12 / 1200	AQ	5	X	X								
	MW-B250-01-1012	10/02/12 / 0925	GW	5	X	X	DUP 01							
	-02	" " / 0945		5	X	X								
	-03	10/01/12 / 1500		5	X	X								
	-04	10/02/12 / 1153		5	X	X								
	-05	" " / 1230		5	X	X								
	-06	10/01/12 / 1705		5	X	X								
	-07	" " / 1445		15	X	X								
	-08	/ 1735		5	X	X								
	-09	10/03/12 / 0855		5	X	X	DUP 02							
	-10	" " / 0825		5	X	X								
	MW-B250-DUP01-100212	10/02/12 / —		5	X	X								
	MW-B250-11-1012	10/03/12 / 1105		5	X	X								
	-12-1012	" " / 1300		5	X	X								
	-13-1012	10/02/12 / 1602		5	X	X								
	-14 1012	10/03/12 / 1213		5	X	X								

COMMENTS
ONE WEEK TAT, MW-B250-07 is QC

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Bi Gr	10/3/12 1635	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES

600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Refer to Page 1 | Contact | Phone # ( ) | Fax # ( )

Address | City | State | Zip Code

Purchase Order # | Proj. Name / No. | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Brian Geringer / B. G.

Copies To:

LAB USE ONLY

WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOCs (Filt. ☐Y ☐N)	EDB (Filt. ☐Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐
	MW-B250-15-1012	10/02/12 / 1440	GW	5	X	X								
	MW-B250-RB01-100312	10/03/12 / 1500	AQ	5	X	X								
	MW-B250-DUP02-100312	" " / —	GW	5	X	X								
		/												
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COMMENTS

ONE WEEK TAT

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
B. G.	10/3/12 1635	D. Medeiros			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

TETRA TECH NUS, INC. — **CHAIN OF CUSTODY** | **NUMBER** 1531 | **PAGE** 1 **OF** 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G00645	NAS Brunswick	J. Forrelli	978-474-8412	Katahdin / Jennifer Obrin
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature]		K. Simpson	412-352-2264	600 Technology Way
		CARRIER/WAYBILL NUMBER		CITY, STATE
Terry Nojah [signature]		Lab Pick Up		Scarborough, ME 04074

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

CONTAINER TYPE Summa (S) PLASTIC (P) or GLASS (G): S

PRESERVATIVE USED: /

TYPE OF ANALYSIS: TO-15, Low Level

HANGAR 4/BLDG 250

DATE YEAR 2012	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TO-15, Low Level							Final Gauge Reading Inches Hg	COMMENTS SNs Summa	Reg.
10/23	2033	AIR10	10	–	–	Air	G	1	1							2	12830	04841
10/23	2035	AIR 11	11	–	–	Air	G	1	1							4.9	12591	04839
10/23	2035	AIR 4	4	–	–	Air	G	1	1							4	843	04844
10/23	2035	AIR 14	14	–	–	Air	G	1	1							3.25	12834	04901
10/23	2037	AIR 9	9	–	–	Air	G	1	1							5	828	04832
10/23	2038	AIR 13	13	–	–	Air	G	1	1							4.5	827	04843
10/23	2041	AIR 7	7	–	–	Air	G	1	1							4.25	12851	04831
10/23	[illegible]	FD102312	QC	–	–	Air	G	1	1							6.5	831	04903
10/23	2042	AIR 15	15	–	–	Air	G	1	1							5	842	04905
10/23	2045	AIR 1	1	–	–	Air	G	1	1							4	833	04835
10/23	2047	AB102312	AB	–	–	Air	G	1	1							4	12590	04838
10/23	2052	AIR 5	5	–	–	Air	G	1	1							3.5	12583	04836
10/23	2055	AIR 2	2	–	–	Air	G	1	1							4	12844	04846

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
[signature]	10/24/12	1430			
2. RELINQUISHED BY	**DATE**	**TIME**	**2. RECEIVED BY**	**DATE**	**TIME**
3. RELINQUISHED BY	**DATE**	**TIME**	**3. RECEIVED BY**	**DATE**	**TIME**

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

TETRA TECH NUS, INC. **CHAIN OF CUSTODY** | NUMBER 4532 | PAGE 1 OF 1

PROJECT NO: 112G00645	FACILITY: NAS BRUNSWICK	PROJECT MANAGER: J. Forrelli	PHONE NUMBER: 978-474-8412	LABORATORY NAME AND CONTACT: KATAHDIN / JENNIFER OBRIN
SAMPLERS (SIGNATURE): Terry Kyshn		FIELD OPERATIONS LEADER: K. SIMPSON	PHONE NUMBER: 412-352-2264	ADDRESS: 600 TECHNOLOGY WAY
		CARRIER/WAYBILL NUMBER: LAB PICK UP		CITY, STATE: SCARBOROUGH, ME 04074

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

CONTAINER TYPE Summa (S) PLASTIC (P) or GLASS (G): S
PRESERVATIVE USED: /

HANGAR 4 / BLDG 250

DATE YEAR 2012	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: TO-15, LOW LEVEL							FINAL GAUGE READING INCHES Hg	COMMENTS: SNs Summa	Reg
10/23	2108	AIR 8	8	–	–	AIR	G	1	1							8	12836	04833
10/23	2115	AIR 6	6	–	–	AIR	G	1	1							6.3	12839	04830
10/23	2118	AIR 12	12	–	–	AIR	G	1	1							5	12824	04840
10/23	2125	AIR 3	3	–	–	AIR	G	1	1							6	12826	04829
10/24	1132	SBS 3	3	–	–	AIR	G	1	1							5	12831	04949
10/24	1131	SBS 5	5	–	–	AIR	G	1	1							5	12845	04908

1. RELINQUISHED BY	DATE 10/24/12	TIME 1430	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

TETRA TECH NUS, INC.

CHAIN OF CUSTODY | **NUMBER** 4533 | **PAGE** 1 **OF** 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G00645	NAS BRUNSWICK	J. Forrelli	978 474 8412	KATAHDIN / JENNIFER OBRIN
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Terry Graham		K SIMPSON	412 352 2264	600 TECHNOLOGY WAY
		CARRIER/WAYBILL NUMBER		CITY, STATE
		LAB PICK UP		SCARBOROUGH ME 04074

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ ~~7~~ 19 day (TK) ☐ 14 day

CONTAINER TYPE Summa (S) PLASTIC (P) or GLASS (G): S
PRESERVATIVE USED: /

TYPE OF ANALYSIS

HANGER 4 / Bldg 250

DATE YEAR 2012	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TO-15							FINAL GAUGE READING INCHES Hg	COMMENTS SNs Summa	Reg.
10/24	1530	SBS2	2	-	-	SG	G	1	1							4	12843	04907
10/24	1616	SBS1	1	-	-	SG	G	1	1							5	844	04847
10/24	1900	SBS 9	9	-	-	SG	G	1	1							5	12846	04904
10/25	0930	SBS 4	4	-	-	SG	G	1	1							5	836	02797
10/25	~~0845~~ 1015 TK	SBS 11	11	-	-	SG	G	1	1							5	12850	02796
10/25	1238	SBS12	12	-	-	SG	G	1	1							5	12829	04854
10/25	[illegible]	FD1025-2	DUP	-	-	SG	G	1	1							4	12840	02782
10/25	[illegible]	SBS 6	6	-	-	SG	G	1	1							6	845	02800

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
[illegible signature]	[illegible]	[illegible]	[illegible]	[illegible]	
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

TETRA TECH NUS, INC. | **CHAIN OF CUSTODY** | **NUMBER** 1534 | **PAGE** 1 **OF** 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G00645	NAS BRUNSWICK	J. Forrelli	978 474 8412	KATAHDIN / JENNIFER OBRIN
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature]		K. SIMPSON	412 352 2264	600 TECHNOLOGY WAY
		CARRIER/WAYBILL NUMBER		CITY, STATE
		DROP OFF @ KATAHDIN		SCARBOROUGH, ME 04074

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day (10) ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): Summa (S) / S

PRESERVATIVE USED: /

TYPE OF ANALYSIS: TO-15 LOW LEVEL

HANGAR 4 / BLDG 250

DATE YEAR 2012	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TO-15 LOW LEVEL							Final Gauge Reading INCHES Hg	COMMENTS SNs SUMMA	REG.
10/25	1518	SBS 13	13	-	-	SG	G	1	1							5	826	04925
10/25	1533	SBS 7	7	-	-	SG	G	1	1							5	12837	02799 TC
10/25	1752	SBS 10	10	-	-	SG	G	1	1							5	12827	02783
10/26	1036	SBS 8	8	-	-	SG	G	1	1							5	12828	02798

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
[signature]	10/26/12	1453	[signature]	10/26/12	1453
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

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FORM NO. TtNUS-001

20-5418

TETRA TECH NUS, INC. CHAIN OF CUSTODY NUMBER № 1557 PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G00645	NAS BRUNSWICK	J. FORRELLI	978-474-8412	KATAHDIN / JENNIFER OBRIN
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
		K. SIMPSON	412-352-2264	600 TECHNOLOGY WAY
		CARRIER/WAYBILL NUMBER		CITY, STATE
		LAB PICK-UP		SCARBOROUGH, ME 04074

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 10 day ☐ 14 day

CONTAINER TYPE SUMMA (S) PLASTIC (P) or GLASS (G): S
PRESERVATIVE USED: /

TYPE OF ANALYSIS: TO-15 (LOW LEVEL)

HANGAR 4 / BLDG 250 ROUND 2

DATE YEAR 2013	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TO-15 (LOW LEVEL)							FINAL GAUGE READING (IN Hg)	COMMENTS SNs SUMMA	REG
5/21	1355	AIR 13	13	–	–	AIR	G	1	1							3	839	03055
5/21	1502	AIR 12	12	–	–	AIR	G	1	1							3	827	04835
5/21	1535	AIR 11	11	–	–	AIR	G	1	1							5	828	02799
5/21	1536	AIR 8	8	–	–	AIR	G	1	1							5	829	05699
5/21	1603	AIR 9	9	–	–	AIR	G	1	1							5	12827	02872
5/21	1605	AIR 5	5	–	–	AIR	G	1	1							5	830	04899
5/21	1608	AIR 2	2	–	–	AIR	G	1	1							5	12591	04832
5/21	1613	AIR 4	4	–	–	AIR	G	1	1							4	12839	05076
5/21	1621	AIR 7	~~7S~~ 7	–	–	AIR	G	1	1							5	12834	04844
5/21	1622	AIR 10	~~10S~~ 10	–	–	AIR	G	1	1							5	12836	04829
5/21	1622	AB 052113	AB	–	–	AIR	G	1	1							5	12844	04905
5/21	1632	AIR 1	1	–	–	AIR	G	1	1							5	12849	04830
5/21	1648	AIR 3	3	–	–	AIR	G	1	1							6	12847	04907

1. RELINQUISHED BY	DATE 5-22-13	TIME 1505	1. RECEIVED BY	DATE 5-22-13	TIME 1505
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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4/02R
FORM NO. TtNUS-001

TETRA TECH NUS, INC. SG-3478 CHAIN OF CUSTODY | NUMBER № 1558 | PAGE 1 OF 1

PROJECT NO: 112G00645	FACILITY: NAS BRUNSWICK	PROJECT MANAGER: J. FORRELLI	PHONE NUMBER: 978 474-8412	LABORATORY NAME AND CONTACT: KATAHDIN / JENNIFER OBRIN
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: K. SIMPSON	PHONE NUMBER: 412 352-2264	ADDRESS: 600 TECHNOLOGY WAY
		CARRIER/WAYBILL NUMBER: LAB PICK-UP		CITY, STATE: SCARBOROUGH, ME 04074

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ ~~7~~ 10 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): SUMMA(S) / S
PRESERVATIVE USED: /

HANGAR 4/BLDG 250 ROUND 2

TYPE OF ANALYSIS: TO-15 (LOW LEVEL)

DATE 2013 YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.) SG: SOIL GAS	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TO-15 (LOW LEVEL)							FINAL GAUGE READING (IN Hg)	COMMENTS SNs SUMMA	REG
5/21	1700	AIR 6	6	–	–	AIR	G	1	1							3	12825	03056
5/21	0000	FD 052113	FB	–	–	AIR	G	1	1							10	14034	04906 ~~03056~~
5/22	1046	SBS 2	2	–	–	SG	G	1	1							5	12833	05589
5/22	1105	SBS 1	1	–	–	SG	G	1	1							5	831	02796
5/22	1253	SBS 5	5	–	–	SG	G	1	1							4	14033	02782
5/22	1337	SBS 3	3	–	–	SG	G	1	1							4.5	12826	02793

1. RELINQUISHED BY	DATE 5-22-13	TIME 1505	1. RECEIVED BY	DATE 5-22-13	TIME 1505
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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4/02R
FORM NO. TtNUS-001

SG3552

TETRA TECH NUS, INC. — CHAIN OF CUSTODY — NUMBER № 1559 — PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112600645	NAS BRUNSWICK	J. FORRELLI	978 474-8412	KATAHDIN / JENNIFER OBRIN

SAMPLERS (SIGNATURE)	FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] [signature]	K. SIMPSON	412 352-2264	600 TECHNOLOGY WAY

CARRIER/WAYBILL NUMBER: DROP OFF @ KATAHDIN

CITY, STATE: SCARBOROUGH, ME 04074

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ ~~7~~ 10 day ☐ 14 day

CONTAINER TYPE SUMMA (S) PLASTIC (P) or GLASS (G): S

PRESERVATIVE USED: /

TYPE OF ANALYSIS: TO-15 (LOW LEVEL); FINAL GAUGE READING

HANGAR 4 / BLDG 250
ROUND 2

DATE YEAR 2013	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.) SG (Soil Gas)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TO-15 (LOW LEVEL)	FINAL GAUGE READING	COMMENTS SNS SUMMA	REG
5/22	1535	SBS 11	11	–	–	SG	G	1	1	5	836	02786
5/22	1555	SBS 12	12	–	–	SG	G	1	1	4	12838	02787
5/22	1726	SBS 7	7	–	–	SG	G	1	1	5	833	02784
5/23	0953	SBS 13	13	–	–	SG	G	1	1	4	14037	0~~2~~ 2 800 TR
5/23	1004	SBS 9	9	–	–	SG	G	1	1	5	12853	04845
5/23	1210	SBS 6	6	–	–	SG	G	1	1	3	841	02788
5/23	1232	SBS 4	4	–	–	SG	G	1	1	5	12830	02785
5/23	1413	SBS 10	10	–	–	SG	G	1	1	5	824	02789
5/23	1630	SBS 8	8	–	–	SG	G	1	1	5	844	04903
5/23	0000	FD 052313	FD	–	–	SG	G	1	1	5	12842	04834

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	5-24-13	1300	1. RECEIVED BY [signature]	5-24-13	1300
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

C-2 GROUNDWATER ANALYTICAL RESULTS

TABLE C-2
COMPLETE GROUNDWATER ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION, BRUNSWICK, MAINE

SAMPLE ID	MW-B250-01-0612	MW-B250-01-1012	MW-B250-01-1012-D	MW-B250-02-0612	MW-B250-02-1012	MW-B250-03-0612	MW-B250-03-0612-D	MW-B250-03-1012	MW-B250-04-0612	MW-B250-04-1012	MW-B250-05-0612	MW-B250-05-1012	MW-B250-06-0612	MW-B250-06-1012	MW-B250-07-0612	MW-B250-07-1012	MW-B250-08-0612	MW-B250-08-1012	MW-B250-09-1012	MW-B250-09-1012-D	MW-B250-10-1012	MW-B250-11-1012	MW-B250-12-1012	MW-B250-13-1012
LOCATION ID	MW-B250-01	MW-B250-01	MW-B250-01	MW-B250-02	MW-B250-02	MW-B250-03	MW-B250-03	MW-B250-03	MW-B250-04	MW-B250-04	MW-B250-05	MW-B250-05	MW-B250-06	MW-B250-06	MW-B250-07	MW-B250-07	MW-B250-08	MW-B250-08	MW-B250-09	MW-B250-09	MW-B250-10	MW-B250-11	MW-B250-12	MW-B250-13
SAMPLE DATE	06/07/12	10/02/12	10/02/12	06/07/12	10/02/12	06/06/12	06/06/12	10/01/12	06/07/12	10/02/12	06/07/12	10/02/12	06/08/12	10/01/12	06/08/12	10/01/12	06/06/12	10/01/12	10/03/12	10/03/12	10/03/12	10/03/12	10/03/12	10/02/12
VOLATILES (UG/L)																								
1,1,1-TRICHLOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-TRICHLOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DICHLOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DICHLOROETHENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-TRICHLOROBENZENE	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
1,2,4-TRICHLOROBENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	0.75 UR	0.75 U	0.75 UJ	0.75 UR	0.75 U	0.75 U	0.75 U	0.75 U	0.75 UR	0.75 U	0.75 UR	0.75 UJ	0.75 UR	0.75 UJ	0.75 UR	0.75 UJ	0.75 U	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ
1,2-DIBROMOETHANE	0.024 U	0.024 U	0.024 U	0.024 U	0.024 U	0.025 U	0.026 U	0.023 U	0.026 U	0.023 U	0.025 U	0.024 U	0.025 U	0.024 U	0.025 U	0.023 U	0.024 U	0.024 U	0.024 U	0.023 U	0.024 U	0.023 U	0.024 U	0.023 U
1,2-DICHLOROBENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROPROPANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-DICHLOROBENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-DICHLOROBENZENE	0.5 UJ	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-DIOXANE	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR	250 UR
2-BUTANONE	2.5 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ
2-HEXANONE	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ
4-METHYL-2-PENTANONE	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ
ACETONE	2.5 U	2.5 UJ	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ
BENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOCHLOROMETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMODICHLOROMETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOFORM	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOMETHANE	1 U	1 U	1 U	**3.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CARBON DISULFIDE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CARBON TETRACHLORIDE	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
CHLOROBENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROFORM	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.73 J**	**0.88 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CIS-1,2-DICHLOROETHENE	**5.9**	**6.4**	**6.2**	**6.1**	**7.8**	**0.93 J**	**0.83 J**	**2.5**	**8.6**	**9.4**	**12**	**15**	**4**	**4.2**	**2.7**	**0.26 J**	**0.58 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**10**
CIS-1,3-DICHLOROPROPENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CYCLOHEXANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.52 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE; R - REJECTED

SAMPLE ID	MW-B250-01-0612	MW-B250-01-1012	MW-B250-01-1012-D	MW-B250-02-0612	MW-B250-02-1012	MW-B250-03-0612	MW-B250-03-0612-D	MW-B250-03-1012	MW-B250-04-0612	MW-B250-04-1012	MW-B250-05-0612	MW-B250-05-1012	MW-B250-06-0612	MW-B250-06-1012	MW-B250-07-0612	MW-B250-07-1012	MW-B250-08-0612	MW-B250-08-1012	MW-B250-09-1012	MW-B250-09-1012-D	MW-B250-10-1012	MW-B250-11-1012	MW-B250-12-1012	MW-B250-13-1012
LOCATION ID	MW-B250-01	MW-B250-01	MW-B250-01	MW-B250-02	MW-B250-02	MW-B250-03	MW-B250-03	MW-B250-03	MW-B250-04	MW-B250-04	MW-B250-05	MW-B250-05	MW-B250-06	MW-B250-06	MW-B250-07	MW-B250-07	MW-B250-08	MW-B250-08	MW-B250-09	MW-B250-09	MW-B250-10	MW-B250-11	MW-B250-12	MW-B250-13
SAMPLE DATE	06/07/12	10/02/12	10/02/12	06/07/12	10/02/12	06/06/12	06/06/12	10/01/12	06/07/12	10/02/12	06/07/12	10/02/12	06/08/12	10/01/12	06/08/12	10/01/12	06/06/12	10/01/12	10/03/12	10/03/12	10/03/12	10/03/12	10/03/12	10/02/12
DICHLORODIFLUOROMETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.4 J**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ISOPROPYLBENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
M+P-XYLENES	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
METHYL ACETATE	0.75 U	0.75 U	0.75 UJ	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 UJ	0.75 U	0.75 UJ	0.75 U	0.75 UJ	0.75 U	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ
METHYL CYCLOHEXANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
METHYL TERT-BUTYL ETHER	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
METHYLENE CHLORIDE	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
O-XYLENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
STYRENE	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
TETRACHLOROETHENE	**2 J**	**2.7**	**2.2**	**0.56 J**	1.2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.62 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.8**	0.5 U	0.5 U	**2.8**
TOLUENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOTAL XYLENES	1.5 U	1.5 U	1.5 U	1.5 UJ	1.5 U	1.5 U	1.5 U	1.5 U	1.5 UJ	1.5 U	1.5 UJ	1.5 U	1.5 UJ	1.5 U	1.5 UJ	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
TRANS-1,2-DICHLOROETHENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TRICHLOROETHENE	**11**	**10**	**10**	**6.1**	**8.2**	0.5 U	0.5 U	**0.59 J**	**6.8**	**8**	**2.1**	**3.3**	**1.2**	**1.9**	**0.65 J**	0.5 U	0.5 U	**0.43 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**14**
TRICHLOROFLUOROMETHANE	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VINYL CHLORIDE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VPH MADEP (UG/L)																								
C5-C8 ALIPHATICS	**64 J**	NA	NA	75 U	NA	75 U	75 U	NA	75 U	NA	75 U	NA	75 U	NA	75 U	NA	75 U	NA	NA	NA	NA	NA	NA	NA
C9-C10 AROMATICS	75 U	NA	NA	75 U	NA	75 U	75 U	NA	75 U	NA	75 U	NA	75 U	NA	75 U	NA	75 U	NA	NA	NA	NA	NA	NA	NA
C9-C12 ALIPHATICS	75 U	NA	NA	75 U	NA	75 U	75 U	NA	75 U	NA	75 U	NA	75 U	NA	75 U	NA	75 U	NA	NA	NA	NA	NA	NA	NA
METALS (UG/L)																								
ALUMINUM	NA	NA	NA	NA	NA	**107 J**	**101 J**	NA	NA	NA	NA	NA	NA	NA	40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANTIMONY	NA	NA	NA	NA	NA	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
ARSENIC	NA	NA	NA	NA	NA	4 U	4 U	NA	NA	NA	NA	NA	NA	NA	4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
BARIUM	NA	NA	NA	NA	NA	**20**	**20.2**	NA	NA	NA	NA	NA	NA	NA	**16.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
BERYLLIUM	NA	NA	NA	NA	NA	0.2 U	0.2 U	NA	NA	NA	NA	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
CADMIUM	NA	NA	NA	NA	NA	**0.25 J**	**0.24 J**	NA	NA	NA	NA	NA	NA	NA	**0.07 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
CALCIUM	NA	NA	NA	NA	NA	**16100**	**16000**	NA	NA	NA	NA	NA	NA	NA	**18600**	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM	NA	NA	NA	NA	NA	4.0 U	4.0 U	NA	NA	NA	NA	NA	NA	NA	4.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
COBALT	NA	NA	NA	NA	NA	**0.81 J**	**0.81 J**	NA	NA	NA	NA	NA	NA	NA	**2.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA
COPPER	NA	NA	NA	NA	NA	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
IRON	NA	NA	NA	NA	NA	**174**	**159**	NA	NA	NA	NA	NA	NA	NA	**130**	NA	NA	NA	NA	NA	NA	NA	NA	NA
LEAD	NA	NA	NA	NA	NA	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
MAGNESIUM	NA	NA	NA	NA	NA	**6040**	**6030**	NA	NA	NA	NA	NA	NA	NA	**6090**	NA	NA	NA	NA	NA	NA	NA	NA	NA

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE; R - REJECTED

SAMPLE ID	MW-B250-01-0612	MW-B250-01-1012	MW-B250-01-1012-D	MW-B250-02-0612	MW-B250-02-1012	MW-B250-03-0612	MW-B250-03-0612-D	MW-B250-03-1012	MW-B250-04-0612	MW-B250-04-1012	MW-B250-05-0612	MW-B250-05-1012	MW-B250-06-0612	MW-B250-06-1012	MW-B250-07-0612	MW-B250-07-1012	MW-B250-08-0612	MW-B250-08-1012	MW-B250-09-1012	MW-B250-09-1012-D	MW-B250-10-1012	MW-B250-11-1012	MW-B250-12-1012	MW-B250-13-1012
LOCATION ID	MW-B250-01	MW-B250-01	MW-B250-01	MW-B250-02	MW-B250-02	MW-B250-03	MW-B250-03	MW-B250-03	MW-B250-04	MW-B250-04	MW-B250-05	MW-B250-05	MW-B250-06	MW-B250-06	MW-B250-07	MW-B250-07	MW-B250-08	MW-B250-08	MW-B250-09	MW-B250-09	MW-B250-10	MW-B250-11	MW-B250-12	MW-B250-13
SAMPLE DATE	06/07/12	10/02/12	10/02/12	06/07/12	10/02/12	06/06/12	06/06/12	10/01/12	06/07/12	10/02/12	06/07/12	10/02/12	06/08/12	10/01/12	06/08/12	10/01/12	06/06/12	10/01/12	10/03/12	10/03/12	10/03/12	10/03/12	10/03/12	10/02/12
MANGANESE	NA	NA	NA	NA	NA	**5220**	**5180**	NA	NA	NA	NA	NA	NA	NA	**1320**	NA	NA	NA	NA	NA	NA	NA	NA	NA
MERCURY	NA	NA	NA	NA	NA	**0.02 J**	**0.02 J**	NA	NA	NA	NA	NA	NA	NA	**0.03 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
NICKEL	NA	NA	NA	NA	NA	1.8 U	1.7 U	NA	NA	NA	NA	NA	NA	NA	**5.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA
POTASSIUM	NA	NA	NA	NA	NA	**3250**	**3250**	NA	NA	NA	NA	NA	NA	NA	**2940**	NA	NA	NA	NA	NA	NA	NA	NA	NA
SELENIUM	NA	NA	NA	NA	NA	3 U	3 U	NA	NA	NA	NA	NA	NA	NA	3.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SILVER	NA	NA	NA	NA	NA	0.4 U	0.4 U	NA	NA	NA	NA	NA	NA	NA	0.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SODIUM	NA	NA	NA	NA	NA	**30600**	**30500**	NA	NA	NA	NA	NA	NA	NA	**20200**	NA	NA	NA	NA	NA	NA	NA	NA	NA
THALLIUM	NA	NA	NA	NA	NA	0.4 U	0.4 U	NA	NA	NA	NA	NA	NA	NA	0.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
VANADIUM	NA	NA	NA	NA	NA	**0.56 J**	**0.62 J**	NA	NA	NA	NA	NA	NA	NA	4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZINC	NA	NA	NA	NA	NA	**12.4**	**11.6**	NA	NA	NA	NA	NA	NA	NA	**13.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH MADEP (UG/L)																								
C11-C22 AROMATICS	77 U	NA	NA	75 U	NA	74 U	75 U	NA	75 U	NA	76 U	NA	73 U	NA	76 U	NA	74 U	NA	NA	NA	NA	NA	NA	NA
C19-C36 ALIPHATICS	77 U	NA	NA	75 U	NA	74 U	75 U	NA	75 U	NA	76 U	NA	73 U	NA	76 U	NA	74 U	NA	NA	NA	NA	NA	NA	NA
C9-C18 ALIPHATICS	77 U	NA	NA	75 U	NA	74 U	75 U	NA	75 U	NA	76 U	NA	73 U	NA	76 U	NA	74 U	NA	NA	NA	NA	NA	NA	NA

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE; R - REJECTED

SAMPLE ID	MW-B250-14-1012	MW-B250-15-1012
LOCATION ID	MW-B250-14	MW-B250-15
SAMPLE DATE	10/03/12	10/02/12
VOLATILES (UG/L)		
1,1,1-TRICHLOROETHANE	0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.5 U	0.5 U
1,1,2-TRICHLOROETHANE	0.5 U	0.5 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U	0.5 U
1,1-DICHLOROETHANE	0.5 U	0.5 U
1,1-DICHLOROETHENE	0.5 U	0.5 U
1,2,3-TRICHLOROBENZENE	0.5 UJ	0.5 UJ
1,2,4-TRICHLOROBENZENE	0.5 U	0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	0.75 UJ	0.75 UJ
1,2-DIBROMOETHANE	0.024 U	0.024 U
1,2-DICHLOROBENZENE	0.5 U	0.5 U
1,2-DICHLOROETHANE	0.5 U	0.5 U
1,2-DICHLOROPROPANE	0.5 U	0.5 U
1,3-DICHLOROBENZENE	0.5 U	0.5 U
1,4-DICHLOROBENZENE	0.5 U	0.5 U
1,4-DIOXANE	250 UR	250 UR
2-BUTANONE	2.5 UJ	2.5 UJ
2-HEXANONE	2.5 UJ	2.5 UJ
4-METHYL-2-PENTANONE	2.5 UJ	2.5 UJ
ACETONE	2.5 UJ	2.5 UJ
BENZENE	0.5 U	0.5 U
BROMOCHLOROMETHANE	0.5 U	0.5 U
BROMODICHLOROMETHANE	0.5 U	0.5 U
BROMOFORM	0.5 U	0.5 U
BROMOMETHANE	1 U	1 U
CARBON DISULFIDE	0.5 U	0.5 U
CARBON TETRACHLORIDE	0.5 UJ	0.5 UJ
CHLOROBENZENE	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.5 U	0.5 U
CHLOROETHANE	1 U	1 U
CHLOROFORM	0.5 U	0.5 U
CHLOROMETHANE	1 U	1 U
CIS-1,2-DICHLOROETHENE	0.5 U	0.5 U
CIS-1,3-DICHLOROPROPENE	0.5 U	0.5 U
CYCLOHEXANE	0.5 U	0.5 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE; R - REJECTED

SAMPLE ID	MW-B250-14-1012	MW-B250-15-1012
LOCATION ID	MW-B250-14	MW-B250-15
SAMPLE DATE	10/03/12	10/02/12
DICHLORODIFLUOROMETHANE	1 U	1 U
ETHYLBENZENE	0.5 U	0.5 U
ISOPROPYLBENZENE	0.5 U	0.5 U
M+P-XYLENES	1 U	1 U
METHYL ACETATE	0.75 UJ	0.75 UJ
METHYL CYCLOHEXANE	0.5 U	0.5 U
METHYL TERT-BUTYL ETHER	0.5 U	0.5 U
METHYLENE CHLORIDE	2.5 U	2.5 U
O-XYLENE	0.5 U	0.5 U
STYRENE	0.5 UJ	0.5 UJ
TETRACHLOROETHENE	0.5 U	0.5 U
TOLUENE	0.5 U	0.5 U
TOTAL XYLENES	1.5 U	1.5 U
TRANS-1,2-DICHLOROETHENE	0.5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.5 U	0.5 U
TRICHLOROETHENE	0.5 U	0.5 U
TRICHLOROFLUOROMETHANE	1 U	1 U
VINYL CHLORIDE	1 U	1 U
VPH MADEP (UG/L)		
C5-C8 ALIPHATICS	NA	NA
C9-C10 AROMATICS	NA	NA
C9-C12 ALIPHATICS	NA	NA
METALS (UG/L)		
ALUMINUM	NA	NA
ANTIMONY	NA	NA
ARSENIC	NA	NA
BARIUM	NA	NA
BERYLLIUM	NA	NA
CADMIUM	NA	NA
CALCIUM	NA	NA
CHROMIUM	NA	NA
COBALT	NA	NA
COPPER	NA	NA
IRON	NA	NA
LEAD	NA	NA
MAGNESIUM	NA	NA

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE; R - REJECTED

TABLE C-2
COMPLETE GROUNDWATER ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION, BRUNSWICK, MAINE

SAMPLE ID	MW-B250-14-1012	MW-B250-15-1012
LOCATION ID	MW-B250-14	MW-B250-15
SAMPLE DATE	10/03/12	10/02/12
MANGANESE	NA	NA
MERCURY	NA	NA
NICKEL	NA	NA
POTASSIUM	NA	NA
SELENIUM	NA	NA
SILVER	NA	NA
SODIUM	NA	NA
THALLIUM	NA	NA
VANADIUM	NA	NA
ZINC	NA	NA
EPH MADEP (UG/L)		
C11-C22 AROMATICS	NA	NA
C19-C36 ALIPHATICS	NA	NA
C9-C18 ALIPHATICS	NA	NA

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE; R - REJECTED

C-3 SUB-SLAB SOIL GAS ANALYTICAL RESULTS

C-3-1 OCTOBER 2012 SUB-SLAB SOIL GAS ANALYTICAL RESULTS

TABLE C-3-1
ROUND 1 (OCT 2012) SUB-SLAB SOIL GAS ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID		B250-SBS1	B250-SBS2	B250-SBS3	B250-SBS4	B250-SBS5	B250-SBS6	B250-SBS6-D (DUPLICATE)
SAMPLE DATE		10/24/12	10/24/12	10/24/12	10/25/12	10/24/12	10/25/12	10/25/12
MEDIA		Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas
AREA		H4/Original AIMD Area	H4/Original AIMD Area	H4/Original AIMD Area	H4/Original AIMD Area	H4/Original AIMD Area	AF/O/PP	AF/O/PP
LOCATION		H4 NW corner	H4 SW corner	H4 center area	NE area - Room 173	SW area	southern central area - Room 155	southern central area - Room 155
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	CAS							
1,1,1-TRICHLOROETHANE	71-55-6	**0.49 J**	**10**	14 U	**2.1**	**400**	**29**	**29**
1,1,2,2-TETRACHLOROETHANE	79-34-5	3.4 U	3.4 U	17 U	0.43 U	0.43 U	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	2.7 U	2.7 U	14 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**21**	**19**	19 U	**0.62 J**	**28**	**0.74 J**	**0.72 J**
1,1-DICHLOROETHANE	75-34-3	2 U	2 U	10 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	2 U	2 U	9.9 U	0.25 U	**0.095 J**	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	3.7 U	3.7 U	18 U	**0.33 J**	**0.12 J**	**0.33 J**	0.46 U
1,2-DIBROMOETHANE	106-93-4	3.8 U	3.8 U	19 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	3 U	3 U	15 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-DICHLOROETHANE	107-06-2	2 U	2 U	10 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROPROPANE	78-87-5	2.3 U	2.3 U	12 U	0.29 U	0.29 U	0.29 U	0.29 U
1,3-DICHLOROBENZENE	541-73-1	3 U	3 U	15 U	0.38 U	0.38 U	0.38 U	0.38 U
1,4-DICHLOROBENZENE	106-46-7	3 U	3 U	15 U	**0.18 J**	**0.096 J**	0.38 U	0.38 U
1,4-DIOXANE	123-91-1	**1.3 J**	**1.3 J**	9 U	0.22 U	0.22 U	**0.097 J**	0.22 U
2-BUTANONE	78-93-3	**7.7**	**5.3**	**9.4 J**	**15**	**9.1**	**8.2**	**8.5**
2-HEXANONE	591-78-6	**0.9 J**	**0.57 J**	10 U	**3.9**	**2.4**	**1.1**	**1.1**
4-METHYL-2-PENTANONE	108-10-1	**4.9**	**3.2 J**	**17 J**	**3.5**	**3.1**	**3.6**	**3.7**
ACETONE	67-64-1	**950 J**	**1000 J**	**300**	**130**	**170**	**230**	**230**
BENZENE	71-43-2	**0.61 J**	**0.45 J**	8 U	**0.77**	**1.5**	**4.2**	**4.2**
BROMODICHLOROMETHANE	75-27-4	3.3 U	3.3 U	17 U	**0.08 J**	0.42 U	0.42 U	0.42 U
BROMOFORM	75-25-2	5.2 U	5.2 U	26 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	74-83-9	1.9 U	1.9 U	9.7 U	0.24 U	**0.34 J**	0.24 U	0.24 U
CARBON DISULFIDE	75-15-0	**15**	**3.1 J**	**5 J**	**3.7**	**9.3**	**1.6**	**2.1**
CARBON TETRACHLORIDE	56-23-5	3.1 U	3.1 U	16 U	**0.46 J**	**0.18 J**	**0.15 J**	**0.16 J**
CHLOROBENZENE	108-90-7	2.3 U	2.3 U	12 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLORODIBROMOMETHANE	124-48-1	4.2 U	4.2 U	21 U	0.53 U	0.53 U	0.53 U	0.53 U
CHLOROETHANE	75-00-3	1.3 U	1.3 U	6.6 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROFORM	67-66-3	**1.8 J**	**0.58 J**	12 U	**2.3**	**3.9**	**0.54 J**	**0.54 J**
CHLOROMETHANE	74-87-3	1 U	**2.9**	5.2 U	0.13 U	0.13 U	**1.4**	**1.5**
CIS-1,2-DICHLOROETHENE	156-59-2	2 U	2 U	9.9 U	0.25 U	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	2.3 U	2.3 U	11 U	0.28 U	0.28 U	0.28 U	0.28 U
CYCLOHEXANE	110-82-7	1.7 U	1.7 U	8.6 U	0.22 U	**0.38 J**	0.22 U	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**2.1 J**	**3.2 J**	**2.2 J**	**1.9**	**3300**	**9.4**	**9.9**
ETHYLBENZENE	100-41-4	**0.69 J**	**1.5 J**	11 U	**0.87**	**0.37 J**	**0.24 J**	**0.22 J**
M+P-XYLENES	TTNUS054	**4.9 J**	**12 J**	43 U	**8.2**	**2.4**	**1.7 J**	**1.7 J**
METHYL TERT-BUTYL ETHER	1634-04-4	1.8 U	1.8 U	9 U	0.22 U	0.22 U	**0.79**	0.22 U
METHYLENE CHLORIDE	75-09-2	0.62 U	0.9 U	**5.2 J**	0.49 U	0.23 U	0.42 U	0.38 U
O-XYLENE	95-47-6	**1.2 J**	**3.4 J**	11 U	**1.3**	**0.65**	**0.24 J**	**0.24 J**
STYRENE	100-42-5	2.1 U	2.1 U	11 U	**0.22 J**	**0.39 J**	**0.085 J**	**0.081 J**
TETRACHLOROETHENE	127-18-4	**130**	**740**	**56**	**54**	**6600**	**24**	**25**
TOLUENE	108-88-3	**2.5 J**	**10**	9.4 U	**6**	**1.7**	**4.5**	**4.5**
TOTAL XYLENES	1330-20-7	**11 J**	**29 J**	160 U	**16**	**5.6**	**3.2 J**	**3.4 J**
TRANS-1,2-DICHLOROETHENE	156-60-5	2 U	2 U	9.9 U	0.25 U	0.25 U	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	2.3 U	2.3 U	11 U	0.28 U	0.28 U	0.28 U	0.28 U
TRICHLOROETHENE	79-01-6	2.7 U	2.7 U	13 U	**0.12 J**	**5.9**	**0.097 J**	0.34 U
TRICHLOROFLUOROMETHANE	75-69-4	**2.7 J**	**2.2 J**	**3.8 J**	**7.9**	**11**	**130**	**130**
VINYL CHLORIDE	75-01-4	1.3 U	1.3 U	6.4 U	0.16 U	0.16 U	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

TABLE C-3-1
ROUND 1 (OCT 2012) SUB-SLAB SOIL GAS ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID	B250-SBS7	B250-SBS8	B250-SBS9	B250-SBS10	B250-SBS11	B250-SBS12	B250-SBS13
SAMPLE DATE	10/25/12	10/25/12	10/24/12	10/25/12	10/25/12	10/25/12	10/25/12
MEDIA	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas
AREA	AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	Avionics	Avionics
LOCATION	SE area - Room 160	NE area - Room 151	NW area - Room 138	Eastern area - Room 157	SW area - Room 161	SE area - hallway	NW area - Room 109
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)							
1,1,1-TRICHLOROETHANE	**10**	**13**	**16**	**8.7 J**	**6.5**	**21**	**5**
1,1,2,2-TETRACHLOROETHANE	0.43 U	0.43 U	0.43 U	17 U	0.43 U	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	0.34 U	0.34 U	0.34 U	14 U	0.34 U	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	**1.5**	**0.75 J**	**0.92 J**	19 U	**0.77 J**	**36**	**68**
1,1-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	10 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	9.9 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	0.46 U	0.46 U	0.46 U	18 U	0.46 U	0.46 U	0.46 U
1,2-DIBROMOETHANE	0.48 U	0.48 U	0.48 U	19 U	0.48 U	0.48 U	0.48 U
1,2-DICHLOROBENZENE	**0.11 J**	0.38 U	0.38 U	15 U	0.38 U	0.38 U	0.38 U
1,2-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	10 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROPROPANE	0.29 U	0.29 U	0.29 U	12 U	0.29 U	0.29 U	0.29 U
1,3-DICHLOROBENZENE	0.38 U	0.38 U	0.38 U	15 U	0.38 U	0.38 U	0.38 U
1,4-DICHLOROBENZENE	0.38 U	0.38 U	0.38 U	15 U	0.38 U	0.38 U	**0.078 J**
1,4-DIOXANE	0.22 U	0.22 U	0.22 U	9 U	0.22 U	0.22 U	0.22 U
2-BUTANONE	**9.1**	**1.4**	**8.8**	**160**	**7.7**	**3.5**	**3.2**
2-HEXANONE	**1.5**	**0.29 J**	**2.1**	**100**	**1.9**	**0.57**	**0.45 J**
4-METHYL-2-PENTANONE	**6.1**	**0.41 J**	**8.2**	**340**	**2.9**	**1.6**	**1**
ACETONE	**100**	**14**	**66**	**290**	**70**	**950 J**	**900**
BENZENE	**2.1**	**0.12 J**	**0.28 J**	**3 J**	**0.64**	**0.45**	**0.24 J**
BROMODICHLOROMETHANE	0.42 U	0.42 U	**0.094 J**	17 U	0.42 U	**2.5**	0.42 U
BROMOFORM	0.64 U	0.64 U	0.64 U	26 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.24 U	0.24 U	0.24 U	9.7 U	0.24 U	0.24 U	0.24 U
CARBON DISULFIDE	**1.9**	**1.2**	**8.1**	7.8 U	**15**	**16**	**11**
CARBON TETRACHLORIDE	**0.14 J**	**0.19 J**	**0.38 J**	16 U	**0.33 J**	**0.23 J**	**0.3 J**
CHLOROBENZENE	0.29 U	0.29 U	0.29 U	12 U	0.29 U	**0.046 J**	0.29 U
CHLORODIBROMOMETHANE	0.53 U	0.53 U	0.53 U	21 U	0.53 U	0.53 U	0.53 U
CHLOROETHANE	0.16 U	0.16 U	0.16 U	6.6 U	0.16 U	0.16 U	0.16 U
CHLOROFORM	**1.3**	**1.9**	**2**	12 U	**0.68**	**31**	**0.54 J**
CHLOROMETHANE	0.13 U	0.13 U	0.13 U	5.2 U	0.13 U	0.13 U	0.13 U
CIS-1,2-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	9.9 U	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	0.28 U	0.28 U	0.28 U	11 U	0.28 U	0.28 U	0.28 U
CYCLOHEXANE	0.22 U	0.22 U	0.22 U	8.6 U	0.22 U	0.22 U	0.22 U
DICHLORODIFLUOROMETHANE	**180**	**3.4**	**21**	**11 J**	**18**	**2**	**1.8**
ETHYLBENZENE	**0.29 J**	**0.15 J**	**0.34 J**	11 U	**0.2 J**	**0.36 J**	**0.28 J**
M+P-XYLENES	**2.2 J**	**0.95 J**	**3.1**	43 U	**1.6 J**	**2.4**	**1.6 J**
METHYL TERT-BUTYL ETHER	0.22 U	0.22 U	0.22 U	9 U	**0.23 J**	0.22 U	0.22 U
METHYLENE CHLORIDE	0.22 U	0.24 U	0.22 U	8.7 U	0.42 U	0.22 U	0.22 U
O-XYLENE	**0.31 J**	**0.19 J**	**0.48 J**	11 U	**0.2 J**	**0.38 J**	**0.26 J**
STYRENE	**0.12 J**	**0.16 J**	**0.089 J**	11 U	**0.11 J**	**0.89**	**1.3**
TETRACHLOROETHENE	**34**	**17**	**100**	**20 J**	**26**	**31**	**10**
TOLUENE	**2.7**	**1.7**	**0.68**	9.4 U	**19**	**0.83**	**1.2**
TOTAL XYLENES	**4.3 J**	**2 J**	**6.1**	160 U	**2.9 J**	**4.7 J**	**3.2 J**
TRANS-1,2-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	9.9 U	0.25 U	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	0.28 U	0.28 U	0.28 U	11 U	0.28 U	0.28 U	0.28 U
TRICHLOROETHENE	**0.22 J**	**5.4**	**0.97**	13 U	**0.52 J**	**31**	**0.14 J**
TRICHLOROFLUOROMETHANE	**35**	**140**	**4.2**	**76**	**7.9**	**5.2**	**7.3**
VINYL CHLORIDE	0.16 U	0.16 U	0.16 U	6.4 U	0.16 U	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

C-3-2 MAY 2013 SUB-SLAB SOIL GAS ANALYTICAL RESULTS

TABLE C-3-2
ROUND 2 (MAY 2013) SUB-SLAB SOIL GAS ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 1 OF 2

SAMPLE ID		B250-SBS1	B250-SBS2	B250-SBS3	B250-SBS4	B250-SBS5	B250-SBS6	B250-SBS6 (DUPLICATE)
SAMPLE DATE		5/22/2013	5/22/2013	5/22/2013	5/23/2013	5/22/2013	5/23/2013	5/23/2013
MEDIA		Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas
AREA		H4/Original AIMD Area	H4/Original AIMD Area	H4/Original AIMD Area	H4/Original AIMD Area	H4/Original AIMD Area	AF/O/PP	AF/O/PP
LOCATION		H4 NW corner	H4 SW corner	H4 center area	NE area - Room 173	SW area	southern central area - Room 155	southern central area - Room 155
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	**CAS**							
1,1,1-TRICHLOROETHANE	71-55-6	0.34 U	**11**	**0.87**	**1.4**	**590**	**34**	**34**
1,1,2,2-TETRACHLOROETHANE	79-34-5	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**0.61 J**	**15**	**0.57 J**	**0.7 J**	**28**	4.8 U	**1**
1,1-DICHLOROETHANE	75-34-3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	2.5 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	0.25 U	0.25 U	0.25 U	0.25 U	**0.079 J**	2.5 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	**0.14 J**	0.46 U	0.46 U	**0.24 J**	0.46 U	4.6 U	**0.12 J**
1,2-DIBROMOETHANE	106-93-4	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	4.8 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	0.38 U
1,2-DICHLOROETHANE	107-06-2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	2.5 U	0.25 U
1,2-DICHLOROPROPANE	78-87-5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	2.9 U	0.29 U
1,3-DICHLOROBENZENE	541-73-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	0.38 U
1,4-DICHLOROBENZENE	106-46-7	**0.084 J**	**0.096 J**	0.38 U	**0.13 J**	**0.11 J**	3.8 U	0.38 U
1,4-DIOXANE	123-91-1	0.22 U	0.22 U	**0.16 J**	0.22 U	0.22 U	2.2 U	0.22 U
2-BUTANONE	78-93-3	**5**	**12**	**5**	**10**	**8**	**3.2 J**	**4.1**
2-HEXANONE	591-78-6	**0.61**	**3.5**	**1.7 J**	**2.4**	**2 J**	2.6 U	0.26 U
4-METHYL-2-PENTANONE	108-10-1	**0.7**	**6.1**	**5.3**	**1.3**	**1.5**	2.6 U	**0.9**
ACETONE	67-64-1	**73**	**240**	**79**	**67**	**73**	**89**	**75 J**
BENZENE	71-43-2	**0.19 J**	**0.28 J**	**0.31 J**	**0.73**	**0.38 J**	**0.67 J**	**1.1**
BROMODICHLOROMETHANE	75-27-4	0.42 U	0.42 U	**0.36 J**	**0.36 J**	0.42 U	4.2 U	**0.3 J**
BROMOFORM	75-25-2	0.64 U	0.64 U	0.64 UJ	0.64 U	0.64 UJ	6.4 U	0.64 U
BROMOMETHANE	74-83-9	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	2.4 U	0.24 U
CARBON DISULFIDE	75-15-0	**1**	**2.4**	**2**	**3.1**	**2.4**	**1 J**	**1.4**
CARBON TETRACHLORIDE	56-23-5	**0.38 J**	**0.26 J**	**0.36 J**	**0.55 J**	**0.19 J**	3.9 U	**0.1 J**
CHLOROBENZENE	108-90-7	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	2.9 U	0.29 U
CHLORODIBROMOMETHANE	124-48-1	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	5.3 U	0.53 U
CHLOROETHANE	75-00-3	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	1.6 U	0.16 U
CHLOROFORM	67-66-3	**0.38 J**	**0.58 J**	**2.5**	**3**	**4.2**	**2.3 J**	**2.4**
CHLOROMETHANE	74-87-3	0.13 U	0.13 U	0.13 UJ	**0.66**	0.13 UJ	1.3 U	0.13 U
CIS-1,2-DICHLOROETHENE	156-59-2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	2.5 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	2.8 U	0.28 U
CYCLOHEXANE	110-82-7	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	2.2 U	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**2.1**	**3.6**	**2.4**	**2.6**	**5300**	**12**	**11**
ETHYLBENZENE	100-41-4	**0.42 J**	**0.32 J**	**0.078 J**	**0.42 J**	**0.16 J**	2.7 U	**0.13 J**
M+P-XYLENES	TTNUS054	**3.1**	**2.1 J**	**0.42 J**	**3.6**	**0.76 J**	11 U	**0.87 J**
METHYL TERT-BUTYL ETHER	1634-04-4	0.22 U	0.22 U	0.22 U	0.22 U	**0.13 J**	2.2 U	0.22 U
METHYLENE CHLORIDE	75-09-2	0.83 U	0.52 U	0.62 U	0.42 U	0.59 U	2.2 U	0.42 U
O-XYLENE	95-47-6	**0.61**	**0.65**	**0.13 J**	**0.74**	**0.19 J**	2.7 U	**0.15 J**
STYRENE	100-42-5	**0.25 J**	**0.17 J**	**0.089 J**	**0.29 J**	**0.28 J**	2.7 U	0.27 U
TETRACHLOROETHENE	127-18-4	**1.6**	**680**	**59**	**85**	**5900**	**43**	**43**
TOLUENE	108-88-3	**2**	**1.9**	**0.68**	**3**	**0.68**	**0.9 J**	**1.2**
TOTAL XYLENES	1330-20-7	**6.5**	**5.1**	**1 J**	**7.6**	**1.7 J**	41 U	**1.8 J**
TRANS-1,2-DICHLOROETHENE	156-60-5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	2.5 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	2.8 U	0.28 U
TRICHLOROETHENE	79-01-6	**0.091 J**	**0.59 J**	**2.9**	**0.13 J**	**4.6**	3.4 U	**0.091 J**
TRICHLOROFLUOROMETHANE	75-69-4	**6.2**	**2.9**	**9**	**17**	**11**	**120**	**100 J**
VINYL CHLORIDE	75-01-4	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	1.6 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

TABLE C-3-2
ROUND 2 (MAY 2013) SUB-SLAB SOIL GAS ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
PAGE 2 OF 2

SAMPLE ID		B250-SBS7	B250-SBS8	B250-SBS9	B250-SBS10	B250-SBS11	B250-SBS12	B250-SBS13
SAMPLE DATE		5/22/2013	5/23/2013	5/23/2013	5/23/2013	5/22/2013	5/22/2013	5/23/2013
MEDIA		Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas	Sub-Slab Soil Gas
AREA		AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	Avionics	Avionics
LOCATION		SE area - Room 160	NE area - Room 151	NW area - Room 138	Eastern area - Room 157	SW area - Room 161	SE area - hallway	NW area - Room 109
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	**CAS**							
1,1,1-TRICHLOROETHANE	71-55-6	**8.7**	**15**	**48**	**12**	**7.6**	**15 J**	**2.8**
1,1,2,2-TETRACHLOROETHANE	79-34-5	3.4 U	3.4 UJ	0.43 U	0.43 U	4.3 U	17 UJ	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	2.7 U	2.7 U	0.34 U	0.34 U	3.4 U	14 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**1.4 J**	3.8 U	**1.8**	**1.4**	4.8 U	**29 J**	**30**
1,1-DICHLOROETHANE	75-34-3	2 U	2 U	0.25 U	0.25 U	2.5 U	10 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	2 U	2 U	0.25 U	0.25 U	2.5 U	9.9 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	**2.1 J**	3.7 UJ	**0.15 J**	0.46 U	**1.5 J**	18 UJ	**0.13 J**
1,2-DIBROMOETHANE	106-93-4	3.8 U	3.8 U	0.48 U	0.48 U	4.8 U	19 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	3 U	3 UJ	0.38 U	0.38 U	3.8 U	15 UJ	0.38 U
1,2-DICHLOROETHANE	107-06-2	2 U	2 U	0.25 U	0.25 U	2.5 U	10 U	0.25 U
1,2-DICHLOROPROPANE	78-87-5	2.3 U	2.3 U	0.29 U	0.29 U	2.9 U	12 U	0.29 U
1,3-DICHLOROBENZENE	541-73-1	3 U	3 UJ	0.38 U	0.38 U	3.8 U	15 UJ	0.38 U
1,4-DICHLOROBENZENE	106-46-7	**0.53 J**	3 UJ	0.38 U	**0.084 J**	3.8 U	15 UJ	0.38 U
1,4-DIOXANE	123-91-1	1.8 U	1.8 U	0.22 U	0.22 U	2.2 U	9 U	0.22 U
2-BUTANONE	78-93-3	**2.4 J**	**2.5 J**	**5.6**	**51**	**5.6**	7.4 U	**3.5**
2-HEXANONE	591-78-6	2 U	2 UJ	**1.3**	**72**	**1.3 J**	10 UJ	**0.49 J**
4-METHYL-2-PENTANONE	108-10-1	2 U	**0.7 J**	**14**	**190**	**7.4**	**11 J**	**0.78**
ACETONE	67-64-1	**18**	**33**	**37 J**	**140**	**65**	**380**	**270**
BENZENE	71-43-2	**1.3 J**	1.6 U	**0.38 J**	**1.3**	**0.54 J**	8 U	**0.64**
BROMODICHLOROMETHANE	75-27-4	3.3 U	3.3 U	**0.094 J**	0.42 U	4.2 U	17 U	**0.2 J**
BROMOFORM	75-25-2	5.2 U	5.2 UJ	0.64 U	0.64 U	6.4 U	26 UJ	0.64 U
BROMOMETHANE	74-83-9	1.9 U	1.9 U	0.24 U	0.24 U	2.4 U	9.7 U	0.24 U
CARBON DISULFIDE	75-15-0	**1.3 J**	**4**	**5.9**	**0.93**	**7.2**	**5 J**	**9.3**
CARBON TETRACHLORIDE	56-23-5	3.1 U	3.1 U	**0.45 J**	**0.12 J**	3.9 U	16 U	**0.46 J**
CHLOROBENZENE	108-90-7	2.3 U	2.3 UJ	0.29 U	0.29 U	2.9 U	12 UJ	0.29 U
CHLORODIBROMOMETHANE	124-48-1	4.2 U	4.2 UJ	0.53 U	0.53 U	5.3 U	21 UJ	0.53 U
CHLOROETHANE	75-00-3	1.3 U	1.3 U	0.16 U	0.16 U	1.6 U	6.6 U	0.16 U
CHLOROFORM	67-66-3	**1.9 J**	**2.4 J**	**1.2**	**2.8**	**1.8 J**	**7.8 J**	**1.6**
CHLOROMETHANE	74-87-3	1 U	1 U	0.13 U	0.13 U	1.3 U	5.2 U	0.13 U
CIS-1,2-DICHLOROETHENE	156-59-2	2 U	2 U	0.25 U	0.25 U	2.5 U	9.9 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	2.3 U	2.3 U	0.28 U	0.28 U	2.8 U	11 U	0.28 U
CYCLOHEXANE	110-82-7	1.7 U	1.7 U	0.22 U	0.22 U	2.2 U	8.6 U	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**100**	**4.3 J**	**73 J**	**9.4**	**9.4**	**3.7 J**	**2.7**
ETHYLBENZENE	100-41-4	2.2 U	2.2 UJ	**0.18 J**	**0.61**	2.7 U	11 UJ	**0.43 J**
M+P-XYLENES	TTNUS054	8.7 U	8.7 UJ	**0.87 J**	**3.1**	11 U	43 UJ	**2.4**
METHYL TERT-BUTYL ETHER	1634-04-4	1.8 U	1.8 U	0.22 U	0.22 U	2.2 U	9 U	0.22 U
METHYLENE CHLORIDE	75-09-2	1.7 U	1.7 U	0.27 U	0.22 U	2.2 U	8.7 U	0.38 U
O-XYLENE	95-47-6	2.2 U	2.2 UJ	**0.24 J**	**0.69**	2.7 U	11 UJ	**0.52 J**
STYRENE	100-42-5	2.1 U	2.1 UJ	**0.2 J**	**0.6**	2.7 U	11 UJ	**1.2**
TETRACHLOROETHENE	127-18-4	**60**	**28 J**	**320**	**41**	**52**	**53 J**	**10**
TOLUENE	108-88-3	**3.8 J**	**1.1 J**	**1.2**	**3.2**	**0.9 J**	9.4 U	**1.6**
TOTAL XYLENES	1330-20-7	32 U	32 UJ	**2 J**	**6.8**	41 U	160 UJ	**5.2**
TRANS-1,2-DICHLOROETHENE	156-60-5	2 U	2 U	0.25 U	0.25 U	2.5 U	9.9 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	2.3 U	2.3 U	0.28 U	0.28 U	2.8 U	11 U	0.28 U
TRICHLOROETHENE	79-01-6	2.7 U	**5.4 J**	**2.1**	**0.64 J**	**1.6 J**	**22 J**	**0.35 J**
TRICHLOROFLUOROMETHANE	75-69-4	**19**	**140**	**11**	**68**	**6.2 J**	**4.5 J**	**7.3**
VINYL CHLORIDE	75-01-4	1.3 U	1.3 U	0.16 U	0.16 U	1.6 U	6.4 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

C-4 INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS

C-4-1 OCTOBER 2012 INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS

TABLE C-4-1
ROUND 1 (OCT 2012) INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID		B250-AIR1	B250-AIR2	B250-AIR3	B250-AIR4	B250-AIR5	B250-AIR6
SAMPLE DATE		10/23/12	10/23/12	10/23/12	10/23/12	10/23/12	10/23/12
MEDIA		Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air
AREA		H4/Original AIMD	H4/Original AIMD	H4/Original AIMD	H4/Original AIMD	H4/Original AIMD	AF/O/PP
LOCATION		H4 NW corner	H4 SW corner	H4 east center area	NE area - Room 173	SW area	southern central area - Room 155
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	**CAS**						
1,1,1-TRICHLOROETHANE	71-55-6	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2,2-TETRACHLOROETHANE	79-34-5	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**0.44 J**	**0.44 J**	**0.45 J**	**0.5 J**	**0.46 J**	**0.46 J**
1,1-DICHLOROETHANE	75-34-3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-DIBROMOETHANE	106-93-4	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-DICHLOROETHANE	107-06-2	**0.048 J**	**0.052 J**	**0.044 J**	**0.044 J**	**0.044 J**	0.25 U
1,2-DICHLOROPROPANE	78-87-5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,3-DICHLOROBENZENE	541-73-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,4-DICHLOROBENZENE	106-46-7	0.38 U	0.38 U	**0.06 J**	0.38 U	0.38 U	0.38 U
1,4-DIOXANE	123-91-1	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
2-BUTANONE	78-93-3	**0.53**	**0.56**	**0.59**	**0.5**	**0.59**	**0.71**
2-HEXANONE	591-78-6	**0.21 J**	**0.19 J**	**0.25 J**	**0.13 J**	**0.15 J**	**0.15 J**
4-METHYL-2-PENTANONE	108-10-1	**0.41 J**	**0.4 J**	**0.53**	**0.29 J**	**0.27 J**	**0.27 J**
ACETONE	67-64-1	**5.2**	**5.7**	**4.5**	**3.8**	**4**	**5**
BENZENE	71-43-2	**0.23 J**	**0.24 J**	**0.24 J**	**0.23 J**	**0.23 J**	**0.23 J**
BROMODICHLOROMETHANE	75-27-4	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
BROMOFORM	75-25-2	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	74-83-9	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
CARBON DISULFIDE	75-15-0	**0.087 J**	0.19 U	0.19 U	0.19 U	0.19 U	**0.096 J**
CARBON TETRACHLORIDE	56-23-5	**0.42 J**	**0.4 J**	**0.34 J**	**0.32 J**	**0.33 J**	**0.39 J**
CHLOROBENZENE	108-90-7	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLORODIBROMOMETHANE	124-48-1	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
CHLOROETHANE	75-00-3	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROFORM	67-66-3	**0.063 J**	**0.063 J**	**0.058 J**	**0.054 J**	**0.058 J**	**0.068 J**
CHLOROMETHANE	74-87-3	**0.74**	**0.8**	**0.74**	**0.74**	**0.7**	**0.74**
CIS-1,2-DICHLOROETHENE	156-59-2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
CYCLOHEXANE	110-82-7	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**2**	**2**	**1.6**	**1.6**	**1.7**	**2**
ETHYLBENZENE	100-41-4	**0.12 J**	**0.15 J**	**0.13 J**	**0.14 J**	**0.17 J**	**0.14 J**
M+P-XYLENES	TTNUS054	**1 J**	**1.2 J**	**1.3 J**	**0.95 J**	**1.2 J**	**1 J**
METHYL TERT-BUTYL ETHER	1634-04-4	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
METHYLENE CHLORIDE	75-09-2	**0.31 J**	**0.28 J**	**0.34 J**	**0.35 J**	**0.38 J**	0.28 U
O-XYLENE	95-47-6	**0.14 J**	**0.17 J**	**0.16 J**	**0.13 J**	**0.2 J**	**0.16 J**
STYRENE	100-42-5	**0.077 J**	**0.094 J**	**0.085 J**	**0.068 J**	**0.13 J**	**0.077 J**
TETRACHLOROETHENE	127-18-4	0.42 U	0.42 U	**0.2 J**	0.42 U	**0.18 J**	**0.12 J**
TOLUENE	108-88-3	**1.4**	**1.6**	**1.5**	**1**	**1.1**	**1**
TOTAL XYLENES	1330-20-7	**2.1 J**	**2.3 J**	**2.5 J**	**1.8 J**	**2.5 J**	**2.1 J**
TRANS-1,2-DICHLOROETHENE	156-60-5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
TRICHLOROETHENE	79-01-6	**0.11 J**	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
TRICHLOROFLUOROMETHANE	75-69-4	**2.4**	**2.3**	**2.9**	**4.4**	**2.4**	**2.8 J**
VINYL CHLORIDE	75-01-4	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

TABLE C-4-1
ROUND 1 (OCT 2012) INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID	B250-AIR7	B250-AIR8	B250-AIR9	B250-AIR10	B250-AIR11	B250-AIR12	B250-AIR13
SAMPLE DATE	10/23/12	10/23/12	10/23/12	10/23/12	10/23/12	10/23/12	10/23/12
MEDIA	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air
AREA	AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	Avionics	Avionics
LOCATION	SE area - Room 160	NE area - Room 151	NW area - Room 138	Eastern area - Room 157	SW area - Room 161	SE area - hallway	NW area - Room 109
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)							
1,1,1-TRICHLOROETHANE	0.34 U	0.34 U	**0.065 J**	**0.036 J**	**0.044 J**	0.34 U	**0.042 J**
1,1,2,2-TETRACHLOROETHANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	**0.47 J**	**0.47 J**	**0.47 J**	**0.47 J**	**0.45 J**	**0.46 J**	**0.55 J**
1,1-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	0.46 U	0.46 U	0.46 U	**0.47 J**	0.46 U	0.46 U	0.46 U
1,2-DIBROMOETHANE	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-DICHLOROBENZENE	0.38 U	0.38 U	0.38 U	**0.11 J**	0.38 U	0.38 U	0.38 U
1,2-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	**0.048 J**	0.25 U	0.25 U	0.25 U
1,2-DICHLOROPROPANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,3-DICHLOROBENZENE	0.38 U	0.38 U	0.38 U	**0.09 J**	0.38 U	0.38 U	0.38 U
1,4-DICHLOROBENZENE	0.38 U	0.38 U	0.38 U	**0.12 J**	0.38 U	0.38 U	0.38 U
1,4-DIOXANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
2-BUTANONE	**1.7**	**0.94**	**0.62**	**0.97**	**0.65**	**0.5**	**0.47**
2-HEXANONE	**0.2 J**	**0.22 J**	**0.17 J**	**0.2 J**	**0.19 J**	**0.15 J**	**0.19 J**
4-METHYL-2-PENTANONE	**0.29 J**	**0.66**	**0.32 J**	**0.37 J**	**0.33 J**	**0.28 J**	**0.38 J**
ACETONE	**4**	**4.7**	**4.3**	**5.2**	**5.7**	**4.3**	**4.7**
BENZENE	**0.23 J**	**0.3 J**	**0.23 J**	**0.24 J**	**0.24 J**	**0.23 J**	**0.22 J**
BROMODICHLOROMETHANE	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
CARBON DISULFIDE	**0.087 J**	**0.47**	**0.093 J**	**0.2 J**	0.19 U	**0.084 J**	0.19 U
CARBON TETRACHLORIDE	**0.32 J**	**0.33 J**	**0.34 J**	**0.42 J**	**0.43 J**	**0.33 J**	**0.39 J**
CHLOROBENZENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLORODIBROMOMETHANE	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
CHLOROETHANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROFORM	**0.058 J**	**0.058 J**	**0.058 J**	**0.073 J**	**0.068 J**	**0.058 J**	**0.063 J**
CHLOROMETHANE	**0.7**	**0.72**	**0.72**	**0.85**	**0.78**	**0.7**	**0.8**
CIS-1,2-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
CYCLOHEXANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
DICHLORODIFLUOROMETHANE	**1.7**	**1.7**	**1.7**	**2.1**	**2.1**	**1.6**	**1.9**
ETHYLBENZENE	**0.2 J**	**0.19 J**	**0.14 J**	**0.11 J**	**0.15 J**	**0.2 J**	**0.14 J**
M+P-XYLENES	**1.4 J**	**1.6 J**	**1 J**	**0.87 J**	**1 J**	**1.1 J**	**0.95 J**
METHYL TERT-BUTYL ETHER	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
METHYLENE CHLORIDE	0.35 U	0.35 U	**0.34 J**	**0.26 J**	**0.32 J**	**0.3 J**	0.38 U
O-XYLENE	**0.21 J**	**0.22 J**	**0.16 J**	**0.15 J**	**0.17 J**	**0.17 J**	**0.15 J**
STYRENE	**0.12 J**	**0.11 J**	**0.068 J**	**0.15 J**	**0.1 J**	**0.072 J**	0.27 U
TETRACHLOROETHENE	**0.15 J**	**0.12 J**	**0.68 J**	**0.1 J**	**0.12 J**	**0.16 J**	**0.66 J**
TOLUENE	**1.1**	**1.4**	**1**	**0.72**	**1**	**0.98**	**0.72**
TOTAL XYLENES	**2.7 J**	**3 J**	**2.1 J**	**1.8 J**	**2.1 J**	**2.2 J**	**1.8 J**
TRANS-1,2-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
TRICHLOROETHENE	0.34 U	0.34 U	**0.17 J**	0.34 U	0.34 U	0.34 U	0.34 U
TRICHLOROFLUOROMETHANE	**2.4 J**	**3.4 J**	**1.8**	**2.9**	**3.8**	**2**	**1.8**
VINYL CHLORIDE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

TABLE C-4-1
ROUND 1 (OCT 2012) INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID	B250-AIR14	B250-AB102312
SAMPLE DATE	10/23/12	10/23/12
MEDIA	Indoor Air	Outdoor Air
AREA		NA
LOCATION	utility tunnel	B250 NW Corner
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)		
1,1,1-TRICHLOROETHANE	0.34 U	0.68 U
1,1,2,2-TETRACHLOROETHANE	0.43 U	0.86 U
1,1,2-TRICHLOROETHANE	0.34 U	0.68 U
1,1,2-TRICHLOROTRIFLUOROETHANE	**0.45 J**	**0.48 J**
1,1-DICHLOROETHANE	0.25 U	0.5 U
1,1-DICHLOROETHENE	0.25 U	0.5 U
1,2,4-TRICHLOROBENZENE	0.46 U	0.93 U
1,2-DIBROMOETHANE	0.48 U	0.96 U
1,2-DICHLOROBENZENE	0.38 U	0.75 U
1,2-DICHLOROETHANE	0.25 U	0.5 U
1,2-DICHLOROPROPANE	0.29 U	0.58 U
1,3-DICHLOROBENZENE	0.38 U	0.75 U
1,4-DICHLOROBENZENE	**0.066 J**	0.75 U
1,4-DIOXANE	0.22 U	0.45 U
2-BUTANONE	**0.59**	**1.4**
2-HEXANONE	**0.31 J**	0.51 U
4-METHYL-2-PENTANONE	**1**	**0.35 J**
ACETONE	**4**	**15**
BENZENE	**0.29 J**	**0.24 J**
BROMODICHLOROMETHANE	0.42 U	0.84 U
BROMOFORM	0.64 U	1.3 U
BROMOMETHANE	0.24 U	0.48 U
CARBON DISULFIDE	**0.075 J**	**0.47 J**
CARBON TETRACHLORIDE	**0.42 J**	**0.43 J**
CHLOROBENZENE	0.29 U	0.58 U
CHLORODIBROMOMETHANE	0.53 U	1.1 U
CHLOROETHANE	0.16 U	0.33 U
CHLOROFORM	**0.13 J**	0.61 U
CHLOROMETHANE	**0.45**	**0.89**
CIS-1,2-DICHLOROETHENE	0.25 U	0.5 U
CIS-1,3-DICHLOROPROPENE	0.28 U	0.57 U
CYCLOHEXANE	0.22 U	0.43 U
DICHLORODIFLUOROMETHANE	**1.9**	**1.9**
ETHYLBENZENE	**0.16 J**	0.54 U
M+P-XYLENES	**1.6 J**	**0.7 J**
METHYL TERT-BUTYL ETHER	0.22 U	0.45 U
METHYLENE CHLORIDE	0.3 U	0.43 U
O-XYLENE	**0.22 J**	**0.11 J**
STYRENE	**0.14 J**	0.53 U
TETRACHLOROETHENE	**1.2**	**0.23 J**
TOLUENE	**1.6**	**0.6 J**
TOTAL XYLENES	**3.1 J**	**1.4 J**
TRANS-1,2-DICHLOROETHENE	0.25 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.28 U	0.57 U
TRICHLOROETHENE	**0.18 J**	0.67 U
TRICHLOROFLUOROMETHANE	**1.7**	**1.1 J**
VINYL CHLORIDE	0.16 U	0.32 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

C-4-2 MAY 2013 INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS

TABLE C-4-2
ROUND 2 (MAY 2013) INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID		B250-AIR1	B250-AIR2	B250-AIR3	B250-AIR4	B250-AIR5
SAMPLE DATE		5/21/13	5/21/13	5/21/13	5/21/13	5/21/13
MEDIA		Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air
AREA		H4/Original AIMD	H4/Original AIMD	H4/Original AIMD	H4/Original AIMD	H4/Original AIMD
LOCATION		H4 NW corner	H4 NW corner	H4 east center area	NE area - Room 173	SW area
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	CAS					
1,1,1-TRICHLOROETHANE	71-55-6	0.34 U	0.34 U	0.34 U	0.34 U	**0.039 J**
1,1,2,2-TETRACHLOROETHANE	79-34-5	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**0.57 J**	**0.6 J**	**0.66 J**	**0.69 J**	**0.52 J**
1,1-DICHLOROETHANE	75-34-3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-DIBROMOETHANE	106-93-4	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-DICHLOROETHANE	107-06-2	0.25 U	**0.077 J**	0.25 U	0.25 U	0.25 U
1,2-DICHLOROPROPANE	78-87-5	0.29 U	0.29 U	0.29 U	0.29 U	**0.069 J**
1,3-DICHLOROBENZENE	541-73-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,4-DICHLOROBENZENE	106-46-7	0.38 U	0.38 U	0.38 U	**0.14 J**	0.38 U
1,4-DIOXANE	123-91-1	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
2-BUTANONE	78-93-3	**4.1**	**3.5**	**2.4**	**3.2**	**1.7**
2-HEXANONE	591-78-6	**0.24 J**	0.26 UJ	0.26 U	0.26 U	0.26 U
4-METHYL-2-PENTANONE	108-10-1	0.26 U	**0.082 J**	0.26 U	0.26 U	0.26 U
ACETONE	67-64-1	**10**	**7.8**	**7.4**	**9.3**	**6.2 J**
BENZENE	71-43-2	**0.22 J**	**0.22 J**	**0.22 J**	**0.23 J**	**0.18 J**
BROMODICHLOROMETHANE	75-27-4	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
BROMOFORM	75-25-2	0.64 UJ	0.64 UJ	0.64 U	0.64 U	0.64 U
BROMOMETHANE	74-83-9	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
CARBON DISULFIDE	75-15-0	**0.04 J**	0.19 U	**0.14 J**	**0.053 J**	**0.1 J**
CARBON TETRACHLORIDE	56-23-5	**0.53 J**	**0.52 J**	**0.56 J**	**0.56 J**	**0.48 J**
CHLOROBENZENE	108-90-7	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLORODIBROMOMETHANE	124-48-1	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
CHLOROETHANE	75-00-3	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROFORM	67-66-3	**0.098 J**	**0.093 J**	**0.14 J**	**0.14 J**	**0.1 J**
CHLOROMETHANE	74-87-3	**1.1 J**	**1 J**	**1.1**	**1.1**	**0.95**
CIS-1,2-DICHLOROETHENE	156-59-2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
CYCLOHEXANE	110-82-7	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**2.6**	**2.4**	**2.9**	**2.9**	**2.7**
ETHYLBENZENE	100-41-4	**0.17 J**	**0.12 J**	0.27 U	**0.087 J**	**0.069 J**
M+P-XYLENES	TTNUS054	**1 J**	**0.74 J**	1.1 U	**0.44 J**	**0.36 J**
METHYL TERT-BUTYL ETHER	1634-04-4	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
METHYLENE CHLORIDE	75-09-2	1.4 U	1.2 U	1.9 U	1.7 U	1.3 U
O-XYLENE	95-47-6	**0.17 J**	**0.14 J**	0.27 U	**0.095 J**	**0.091 J**
STYRENE	100-42-5	**0.15 J**	**0.1 J**	0.27 U	**0.1 J**	0.27 U
TETRACHLOROETHENE	127-18-4	**0.17 J**	**0.58 J**	**0.11 J**	**0.13 J**	**0.15 J**
TOLUENE	108-88-3	**32**	**8.3**	**3.3**	**2.8**	**2.6**
TOTAL XYLENES	1330-20-7	**2.1 J**	**1.6 J**	4.1 U	**0.95 J**	**0.83 J**
TRANS-1,2-DICHLOROETHENE	156-60-5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
TRICHLOROETHENE	79-01-6	**1.2**	**0.31 J**	**0.12 J**	**0.17 J**	**0.75**
TRICHLOROFLUOROMETHANE	75-69-4	**7.9**	**6.7**	**9**	**13**	**9**
VINYL CHLORIDE	75-01-4	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

TABLE C-4-2
ROUND 2 (MAY 2013) INDOOR AIR AND OUTDOOR AMBIENT AIR ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION BRUNSWICK, MAINE

SAMPLE ID		B250-AIR6	B250-AIR6 (DUPLICATE)	B250-AIR7	B250-AIR8	B250-AIR9
SAMPLE DATE		5/21/13	5/21/13	5/21/13	5/21/13	5/21/13
MEDIA		Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air
AREA		AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP	AF/O/PP
LOCATION		southern central area - Room 155	southern central area - Room 155	SE area - Room 160	NE area - Room 151	NW area - Room 138
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	**CAS**					
1,1,1-TRICHLOROETHANE	71-55-6	**0.039 J**	0.34 U	**0.042 J**	0.34 U	**0.2 J**
1,1,2,2-TETRACHLOROETHANE	79-34-5	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**0.56 J**	**0.57 J**	**0.58 J**	**0.65 J**	**1.1**
1,1-DICHLOROETHANE	75-34-3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	0.46 U	**0.18 J**	0.46 U	0.46 U	0.46 U
1,2-DIBROMOETHANE	106-93-4	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	0.38 U	0.38 U	0.38 U	0.38 U	**0.15 J**
1,2-DICHLOROETHANE	107-06-2	0.25 U	0.25 U	0.25 U	0.25 U	**0.15 J**
1,2-DICHLOROPROPANE	78-87-5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,3-DICHLOROBENZENE	541-73-1	0.38 U	0.38 U	0.38 U	0.38 U	**0.13 J**
1,4-DICHLOROBENZENE	106-46-7	0.38 U	**0.16 J**	0.38 U	**0.16 J**	**0.29 J**
1,4-DIOXANE	123-91-1	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
2-BUTANONE	78-93-3	**1.9 J**	**3.8 J**	**1.6**	**2.6**	**3.5**
2-HEXANONE	591-78-6	0.26 UJ	**0.11 J**	**0.14 J**	0.26 U	0.26 U
4-METHYL-2-PENTANONE	108-10-1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
ACETONE	67-64-1	**6.4**	**9 J**	**5.7**	**7.8**	**11**
BENZENE	71-43-2	**0.21 J**	**0.24 J**	**0.19 J**	**0.22 J**	**0.38 J**
BROMODICHLOROMETHANE	75-27-4	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
BROMOFORM	75-25-2	0.64 UJ	0.64 U	0.64 UJ	0.64 U	0.64 U
BROMOMETHANE	74-83-9	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
CARBON DISULFIDE	75-15-0	**0.044 J**	**0.053 J**	**0.04 J**	**0.059 J**	**0.084 J**
CARBON TETRACHLORIDE	56-23-5	**0.49 J**	**0.46 J**	**0.59 J**	**0.56 J**	**1**
CHLOROBENZENE	108-90-7	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLORODIBROMOMETHANE	124-48-1	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
CHLOROETHANE	75-00-3	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROFORM	67-66-3	**0.098 J**	**0.14 J**	**0.093 J**	**0.13 J**	**0.21 J**
CHLOROMETHANE	74-87-3	**0.99 J**	**0.91**	**1.1 J**	**1.1**	**1.8**
CIS-1,2-DICHLOROETHENE	156-59-2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
CYCLOHEXANE	110-82-7	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**2.7**	**2.5**	**2.8**	**2.9**	**4.6**
ETHYLBENZENE	100-41-4	**0.091 J**	**0.091 J**	**0.095 J**	**0.069 J**	**0.25 J**
M+P-XYLENES	TTNUS054	**0.49 J**	**0.52 J**	**0.61 J**	**0.36 J**	**1 J**
METHYL TERT-BUTYL ETHER	1634-04-4	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
METHYLENE CHLORIDE	75-09-2	1.4 U	1.9 U	1.1 U	1.6 U	2.5 U
O-XYLENE	95-47-6	**0.13 J**	**0.12 J**	**0.15 J**	**0.082 J**	**0.29 J**
STYRENE	100-42-5	**0.068 J**	**0.085 J**	**0.077 J**	**0.068 J**	**0.6**
TETRACHLOROETHENE	127-18-4	**0.81 J**	**0.15 J**	**0.14 J**	0.42 U	**1.1**
TOLUENE	108-88-3	**5.6**	**6.4**	**9**	**22**	**1.4**
TOTAL XYLENES	1330-20-7	**1.1 J**	**1.1 J**	**1.3 J**	**0.79 J**	**2.3 J**
TRANS-1,2-DICHLOROETHENE	156-60-5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
TRICHLOROETHENE	79-01-6	**0.13 J**	**0.15 J**	**12**	**0.13 J**	**1.1**
TRICHLOROFLUOROMETHANE	75-69-4	**6.2**	**5.1**	**7.3**	**4.1**	**8.4**
VINYL CHLORIDE	75-01-4	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

SAMPLE ID		B250-AIR10	B250-AIR11	B250-AIR12	B250-AIR13	B250-AB052113
SAMPLE DATE		5/21/13	5/21/13	5/21/13	5/21/13	5/21/13
MEDIA		Indoor Air	Indoor Air	Indoor Air	Indoor Air	Oudoor Air
AREA		AF/O/PP	AF/O/PP	Avionics	Avionics	NA
LOCATION		Eastern area - Room 157	SW area - Room 161	SE area - hallway	NW area - Room 109	B250 NW Corner
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	**CAS**					
1,1,1-TRICHLOROETHANE	71-55-6	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2,2-TETRACHLOROETHANE	79-34-5	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**0.7 J**	**0.56 J**	**0.6 J**	**0.66 J**	**0.55 J**
1,1-DICHLOROETHANE	75-34-3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	0.46 U	0.46 U	**0.12 J**	0.46 U	0.46 U
1,2-DIBROMOETHANE	106-93-4	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-DICHLOROETHANE	107-06-2	**0.085 J**	0.25 U	**0.073 J**	0.25 U	0.25 U
1,2-DICHLOROPROPANE	78-87-5	0.29 U	0.29 U	**0.069 J**	0.29 U	0.29 U
1,3-DICHLOROBENZENE	541-73-1	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,4-DICHLOROBENZENE	106-46-7	**0.13 J**	0.38 U	**0.11 J**	**0.11 J**	**0.09 J**
1,4-DIOXANE	123-91-1	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
2-BUTANONE	78-93-3	**2**	**1.8**	**1.8**	**1.9**	**1.1**
2-HEXANONE	591-78-6	0.26 U	**0.078 J**	0.26 U	0.26 U	0.26 U
4-METHYL-2-PENTANONE	108-10-1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
ACETONE	67-64-1	**6.2**	**6.4**	**5.9 J**	**6.9**	**4 J**
BENZENE	71-43-2	**0.2 J**	**0.21 J**	**0.18 J**	**0.22 J**	**0.15 J**
BROMODICHLOROMETHANE	75-27-4	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
BROMOFORM	75-25-2	0.64 U	0.64 UJ	0.64 U	0.64 U	0.64 U
BROMOMETHANE	74-83-9	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
CARBON DISULFIDE	75-15-0	**0.047 J**	**0.047 J**	**0.11 J**	**0.11 J**	**0.11 J**
CARBON TETRACHLORIDE	56-23-5	**0.58 J**	**0.52 J**	**0.5 J**	**0.56 J**	**0.45 J**
CHLOROBENZENE	108-90-7	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLORODIBROMOMETHANE	124-48-1	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
CHLOROETHANE	75-00-3	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROFORM	67-66-3	**0.12 J**	**0.098 J**	**0.12 J**	**0.13 J**	**0.083 J**
CHLOROMETHANE	74-87-3	**1.1**	**1.1 J**	**0.97**	**1.1**	**0.97**
CIS-1,2-DICHLOROETHENE	156-59-2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
CYCLOHEXANE	110-82-7	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**3**	**2.8**	**2.4**	**2.8**	**2.3**
ETHYLBENZENE	100-41-4	**0.069 J**	**0.11 J**	**0.11 J**	**0.12 J**	0.27 U
M+P-XYLENES	TTNUS054	**0.41 J**	**0.61 J**	**0.45 J**	**0.49 J**	1.1 U
METHYL TERT-BUTYL ETHER	1634-04-4	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
METHYLENE CHLORIDE	75-09-2	1.6 U	1.6 U	1.4 U	1.4 U	1.1 U
O-XYLENE	95-47-6	**0.1 J**	**0.16 J**	**0.1 J**	**0.12 J**	0.27 U
STYRENE	100-42-5	0.27 U	**0.094 J**	**0.064 J**	**0.11 J**	0.27 U
TETRACHLOROETHENE	127-18-4	**0.38 J**	**0.2 J**	0.42 U	0.42 U	**8.8**
TOLUENE	108-88-3	**0.83**	**0.79**	**0.53**	**0.98**	**0.35 J**
TOTAL XYLENES	1330-20-7	**0.92 J**	**1.4 J**	**0.99 J**	**1.1 J**	4.1 U
TRANS-1,2-DICHLOROETHENE	156-60-5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
TRICHLOROETHENE	79-01-6	0.34 U	**0.51 J**	**8**	0.34 U	**0.91**
TRICHLOROFLUOROMETHANE	75-69-4	**5.6**	**7.3**	**5**	**6.2**	**1.1**
VINYL CHLORIDE	75-01-4	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

C-5 FLOOR DRAIN VAPOR ANALYTICAL RESULTS

TABLE C-5
COMPLETE FLOOR DRAIN VAPOR ANALYTICAL RESULTS
TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION
BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION, BRUNSWICK, MAINE

SAMPLE ID		B250-AIR15	B250-AIR15-D
LOCATION ID		B250-AIR15	B250-AIR15
SAMPLE DATE		10/23/12	10/23/12
MEDIA		Air from Floor Drain	Air from Floor Drain
AREA		AF/O/PP	AF/O/PP
LOCATION		southern central area - Room 155	southern central area - Room 155
VOLATILE ORGANICS FOR AIR REPORTED IN METERS CUBED (UG/M3)	**CAS**		
1,1,1-TRICHLOROETHANE	71-55-6	0.34 U	0.34 U
1,1,2,2-TETRACHLOROETHANE	79-34-5	0.43 U	0.43 U
1,1,2-TRICHLOROETHANE	79-00-5	0.34 U	0.34 U
1,1,2-TRICHLOROTRIFLUOROETHANE	76-13-1	**0.47 J**	**0.45 J**
1,1-DICHLOROETHANE	75-34-3	0.25 U	0.25 U
1,1-DICHLOROETHENE	75-35-4	0.25 U	0.25 U
1,2,4-TRICHLOROBENZENE	120-82-1	0.46 U	0.46 U
1,2-DIBROMOETHANE	106-93-4	0.48 U	0.48 U
1,2-DICHLOROBENZENE	95-50-1	0.38 U	0.38 U
1,2-DICHLOROETHANE	107-06-2	**0.052 J**	0.25 U
1,2-DICHLOROPROPANE	78-87-5	0.29 U	0.29 U
1,3-DICHLOROBENZENE	541-73-1	**0.1 J**	0.38 U
1,4-DICHLOROBENZENE	106-46-7	**0.6 J**	**0.53 J**
1,4-DIOXANE	123-91-1	0.22 U	0.22 U
2-BUTANONE	78-93-3	**4.7**	**4.7**
2-HEXANONE	591-78-6	**0.98**	**0.94**
4-METHYL-2-PENTANONE	108-10-1	**0.94**	**0.82**
ACETONE	67-64-1	**12**	**11**
BENZENE	71-43-2	**0.35 J**	**0.3 J**
BROMODICHLOROMETHANE	75-27-4	0.42 U	0.42 U
BROMOFORM	75-25-2	0.64 U	0.64 U
BROMOMETHANE	74-83-9	0.24 U	0.24 U
CARBON DISULFIDE	75-15-0	**0.37 J**	**0.23 J**
CARBON TETRACHLORIDE	56-23-5	**0.4 J**	**0.39 J**
CHLOROBENZENE	108-90-7	0.29 U	0.29 U
CHLORODIBROMOMETHANE	124-48-1	0.53 U	0.53 U
CHLOROETHANE	75-00-3	0.16 U	0.16 U
CHLOROFORM	67-66-3	**0.073 J**	**0.068 J**
CHLOROMETHANE	74-87-3	**0.8**	**0.76**
CIS-1,2-DICHLOROETHENE	156-59-2	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	0.28 U	0.28 U
CYCLOHEXANE	110-82-7	**0.16 J**	0.22 U
DICHLORODIFLUOROMETHANE	75-71-8	**2**	**1.9**
ETHYLBENZENE	100-41-4	**1.2**	**1.1**
M+P-XYLENES		**9.5**	**9.5**
METHYL TERT-BUTYL ETHER	1634-04-4	0.22 U	0.22 U
METHYLENE CHLORIDE	75-09-2	**0.33 J**	0.49 U
O-XYLENE	95-47-6	**4.3**	**4.3**
STYRENE	100-42-5	**0.28 J**	**0.24 J**
TETRACHLOROETHENE	127-18-4	**36 J**	0.42 UJ
TOLUENE	108-88-3	**1.8**	**1.6**
TOTAL XYLENES	1330-20-7	**27**	**27**
TRANS-1,2-DICHLOROETHENE	156-60-5	0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	0.28 U	0.28 U
TRICHLOROETHENE	79-01-6	**0.091 J**	0.34 U
TRICHLOROFLUOROMETHANE	75-69-4	**2.5**	**2.3 J**
VINYL CHLORIDE	75-01-4	0.16 U	0.16 U

BOLD - DETECTED;
U - NOT DETECTED; J - QUANTITATION APPROXIMATE

APPENDIX D

FLOOR DRAIN SEALING PROCEDURE AND SEALED DRAIN LOCATIONS

FLOOR DRAIN SEALING PROCEDURE
BUILDING 250
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
OCTOBER 16, 2013

A total of 19 floor drains located in Building 250 were permanently sealed on October 14 and 15, 2013. The floor drains were sealed by filling the drain pipe to the trap or first elbow with non-shrink grout mix forming a solid waterproof plug completely bonded to the pipe. Most of the drain piping is cast-iron construction. Depending on the configuration of the drain piping, the finished length of the plug varied from approximately 6 to 36 inches in length. The floor drain sealing procedure is described below:

1. The temporary plastic, drain seal (if present), drain cover, and basket, if present, were removed at each floor drain location.
2. A wire bailer brush was inserted into the drain pipe and used to remove any loose residual material present. Hand wire brushes were used to remove any loose residual material present in the drain box, as well.
3. A shop vacuum was used to remove any residual material from the drain pipe and box after using the wire brushes.
4. A piece of steel wool or similar material was placed into the drain pipe and advanced to the drain trap or elbow joint using a section of solid PVC rod. The steel wool acts as an obstruction at the drain trap or elbow joint to prevent the concrete mixture from advancing beyond the elbow or first and causing voids in the concrete seal.
5. Quikrete® Non-Shrink Precision Grout Mix (free of aggregate) was mixed on site with water in a portable, electric, cement mixer, in accordance with manufacturer instructions, to create a flowable grout mix.
6. The concrete mix was placed into the drain via hand scooping. After placement of each scoop, a solid PVC rod was used to hand tamp the concrete mix to ensure no voids were present in the drain pipe plug.
7. The concrete mix was placed to within 2 inches below the bottom of the existing drain cover.
8. After the concrete mix was completely placed, the existing drain cover was replaced. The temporary plastic, drain seal material and basket were discarded.
9. For the sump present in Room 158 of the Airframes/Ordnance/Power Plants portion of the building, the same procedure was followed, with the following exception:

   - The grout mix was placed 1-2 inches above the drain pipe, only. The concrete sump box was not filled with the grout mix due to the size of the sump (approximately 3.3 feet by 8.3 feet with a depth of 5 to 8 inches).

Table 1 lists the 19 floor drains that were sealed and Figures 1 through 3 show the locations of the sealed floor drains in Building 250. Photographs of the completed drains seals at select floor drains are also attached.

TABLE 1
LIST OF SEALED FLOOR DRAINS
BUILDING 250
FORMER NAS BRUNSWICK, MAINE

	Location No.	Area	Room No. / Description	Sample ID	Discharge[1]	Comments
1	7	Avionics	109	B250-109-FD01	OWS	Drain below emergency shower
2	10	AF/O/PP	155	B250-155-FD01	OWS	8.5" square steel cover, 10" to top of pipe, 2" pipe, 1' to elbow, 4" of water, contains a basket
3	11	AF/O/PP	155	B250-155-FD02	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 2" pipe, 2' 2" to elbow, wet, contains a basket
4	12	AF/O/PP	155	B250-155-FD03	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 1' 9" to elbow, dry, contains a basket
5	13	AF/O/PP	160	B250-160-FD01	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 2' 3" to elbow, dry, contains a basket
6	14	AF/O/PP	160	B250-160-FD02	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 2' 7" to elbow, 3" of oily water, contains a basket (adjacent to former parts washer location)
7	15	AF/O/PP	160	B250-160-FD03	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 1' 5" to elbow, dry, contains a basket
8	16	AF/O/PP	160	B250-160-FD04	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 1' 5" to elbow, dry
9	17	AF/O/PP	158	B250-158-FD01	OWS	Sump - 11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 9.5" to elbow, dry. Located in 3' 4" x 8' 4" sump, 5" to 8" deep
10	18	AF/O/PP	158	B250-158-FD02	OWS	7.5" diameter circular steel cover, 3.5" to top of pipe, 3" pipe, 1' 11" to elbow, dry
11	19	AF/O/PP	159	B250-159-FD01	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 11" to elbow, dry
12	20	AF/O/PP	157	B250-157-FD01	OWS	11.25" diameter circular steel cover, 8" to top of pipe, 3" pipe, 1' 1" to elbow, 0.5" of oil/sludge, contains a
13	22	AF/O/PP	161	B250-161-FD01	OWS	8.5" square steel cover, 10" to top of pipe, 2" pipe, 1' 7" to elbow, dry, contains a basket
14	23	AF/O/PP	161	B250-161-FD02	OWS	8.5" square steel cover, 10" to top of pipe, 2" pipe, 2' 1" to elbow, dry
15	24	AF/O/PP	161	B250-161-FD03	OWS	8.5" square steel cover, 10" to top of pipe, 2" pipe, 2' 10" to elbow, dry, contains a basket
16	32	Original AIMD	170C	B250-170C-FD01	OWS	
17	33	Original AIMD	172	B250-172-FD01	OWS	
18	35	Original AIMD	hallway adjacent to paint booth	B250-HAPB-FD01	OWS	11.50" diameter circular steel cover, 6' to 8" deep, 4" opening on east side of drain, dry
19	36	Original AIMD	bathroom adjacent to paint	B250-BAPB-FD01	OWS	7.25" diameter circular steel cover, 3" pipe, 2' 11" to elbow, dry

1) OWS indicates the drain is connected to the oil-water separator, which discharges to the sanitary sewer.

Abbreviations

AF/O/PP = Airframes, Ordnance and Power Plants

AIMD = Aircraft Intermediate Maintenance Division

OWS = oil-water separator

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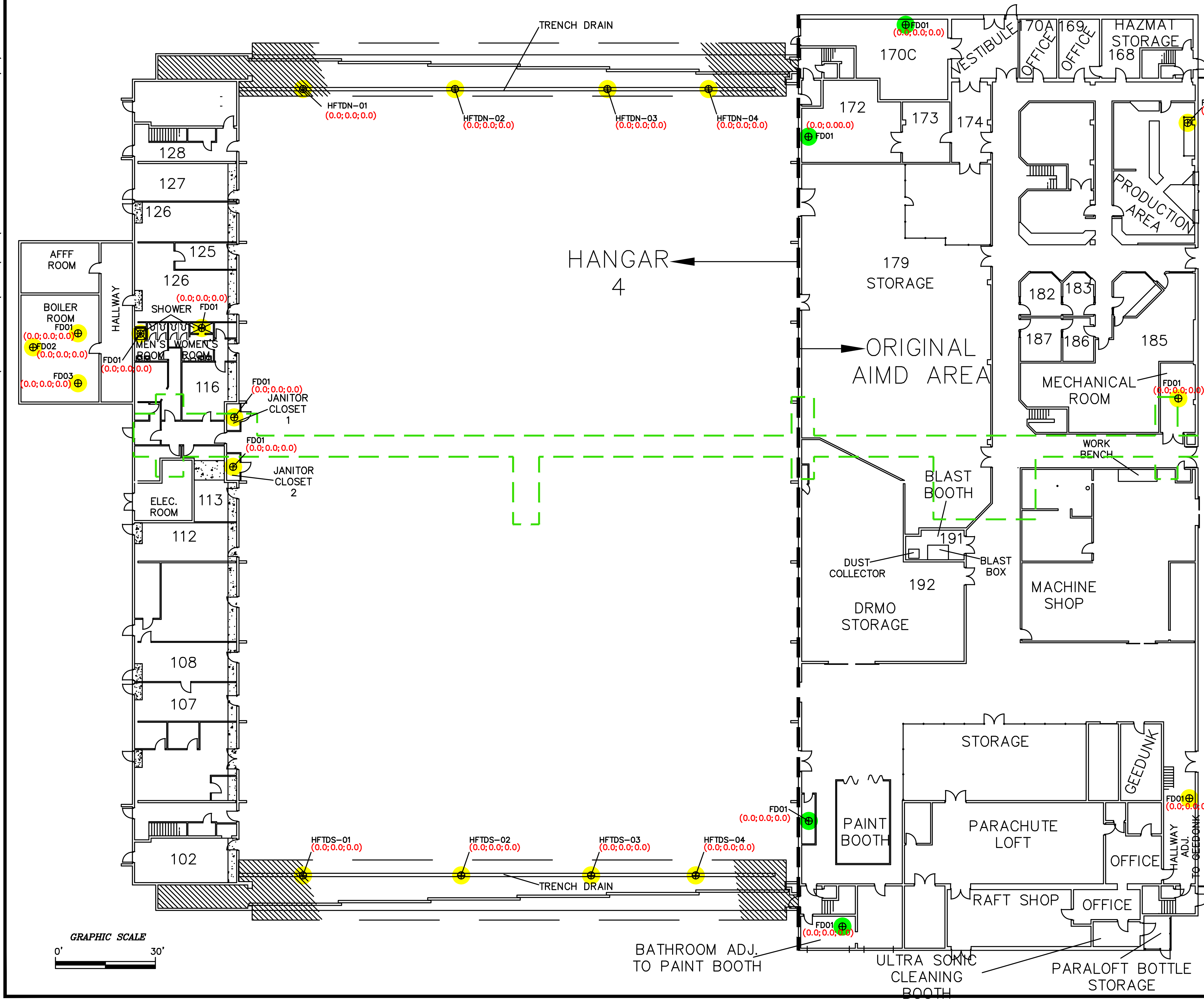

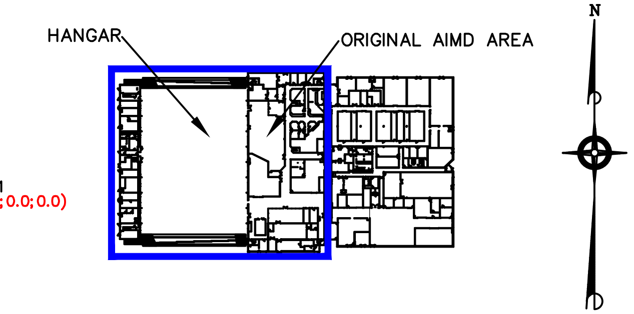

LEGEND

- FD01 ⊕ FLOOR DRAIN
- (0.4;0.2;0.0) PID RESULT (ppm) (September 2012;October 2012;May 2013)
- FLOOR DRAIN TO REMAIN OPEN
- FLOOR DRAIN TO BE SEALED
- UTILITY TUNNEL

Notes:
AB102312 and AB052113 are outside ambient air samples.
Floor drain screening conducted September 18 and19, 2012, October 22, 2012 and May 3, 2013.
Indoor air samples and outdoor ambient air sample collected October 23, 2012 and May 21, 2013, (Round 1 and Round 2 respectively).
Sub-slab soil gas sample collected October 24 and 25, 2012, and again on May 22 and 23, 2013, (Round 1 and Round 2 respectively).

Abbreviations:

PCE	tetrachloroethene
TCE	trichloroethene
$\mu g/m^3$	microgram per cubic meter
J	estimated result
U	not detected (with associated detection limit)
PID	photoionization detector
ppm	parts per million
Rd1	Round 1
Rd2	Round 2

FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

DRAIN LOCATIONS -
HANGAR 4 AND ORIGINAL AIMD AREA

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FILE	SCALE
\..\NASB_BLDG_250&H4_C.DWG	PER SCALE BAR

FIGURE NUMBER	REV	DATE
1	0	10/11/13

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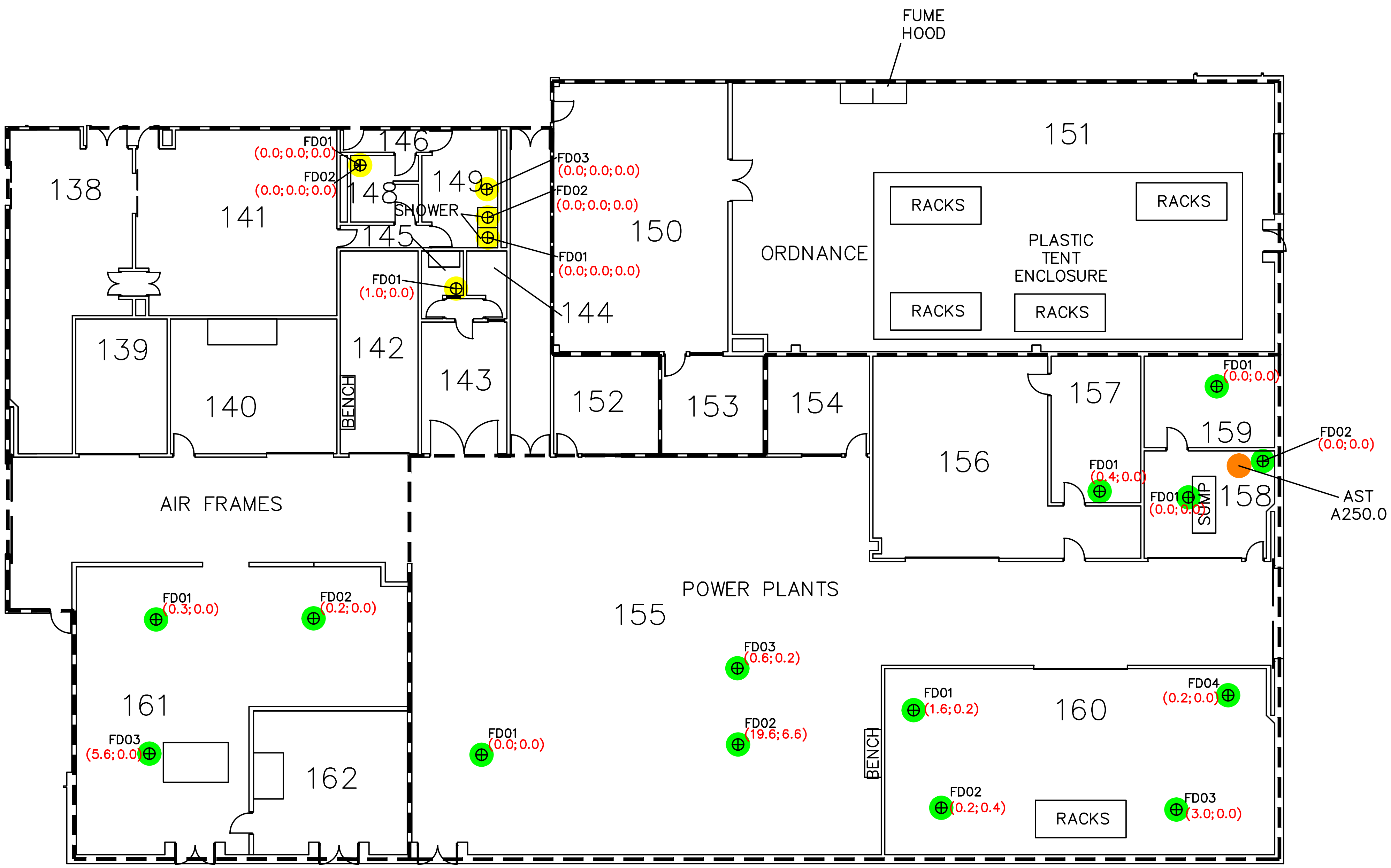

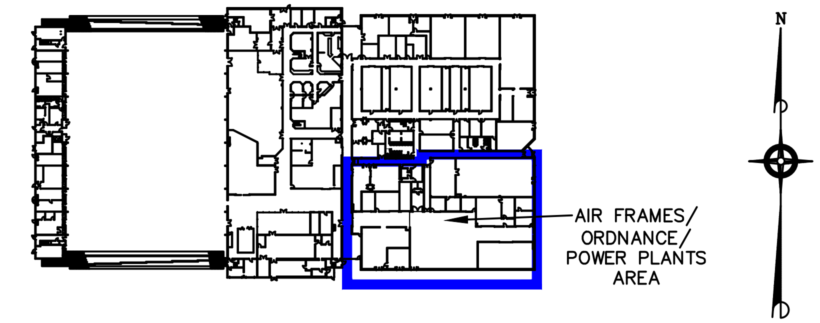

LEGEND

FD01 ⊕ FLOOR DRAIN
(0.4;0.2;0.0) PID RESULT (ppm) (September 2012;October 2012;May 2013)
FLOOR DRAIN TO REMAIN OPEN
FLOOR DRAIN TO BE SEALED

Notes:
Floor drain screening conducted September 18 and19, 2012, October 22, 2012 and May 3, 2013.
Indoor air samples and outdoor ambient air sample collected October 23, 2012 and May 21, 2013, (Round 1 and Round 2 respectively).
Sub-slab soil gas sample collected October 24 and 25, 2012, and again on May 22 and 23, 2013, (Round 1 and Round 2 respectively).

Abbreviations:

PCE	tetrachloroethene
TCE	trichloroethene
µg/m^3	microgram per cubic meter
J	estimated result
U	not detected (with associated detection limit)
PID	photoionization detector
ppm	parts per million
Rd1	Round 1
Rd2	Round 2

GRAPHIC SCALE
0' 20'

FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

DRAIN LOCATIONS -
AIR FRAMES/ORDNANCE/POWER PLANTS AREA

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FILE	SCALE
\..\NASB_BLDG_250&H4_A.DWG	PER SCALE BAR

FIGURE NUMBER	REV	DATE
2	0	10/11/13

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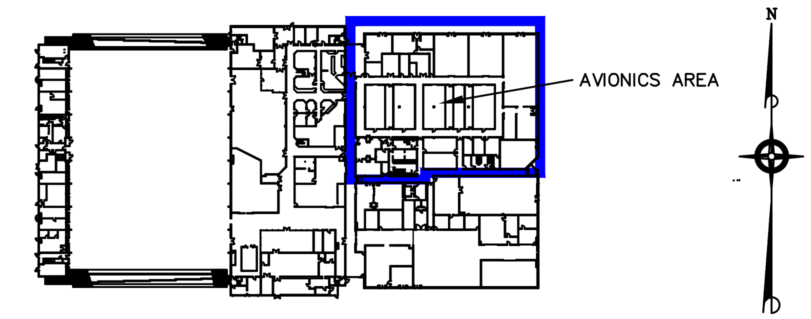

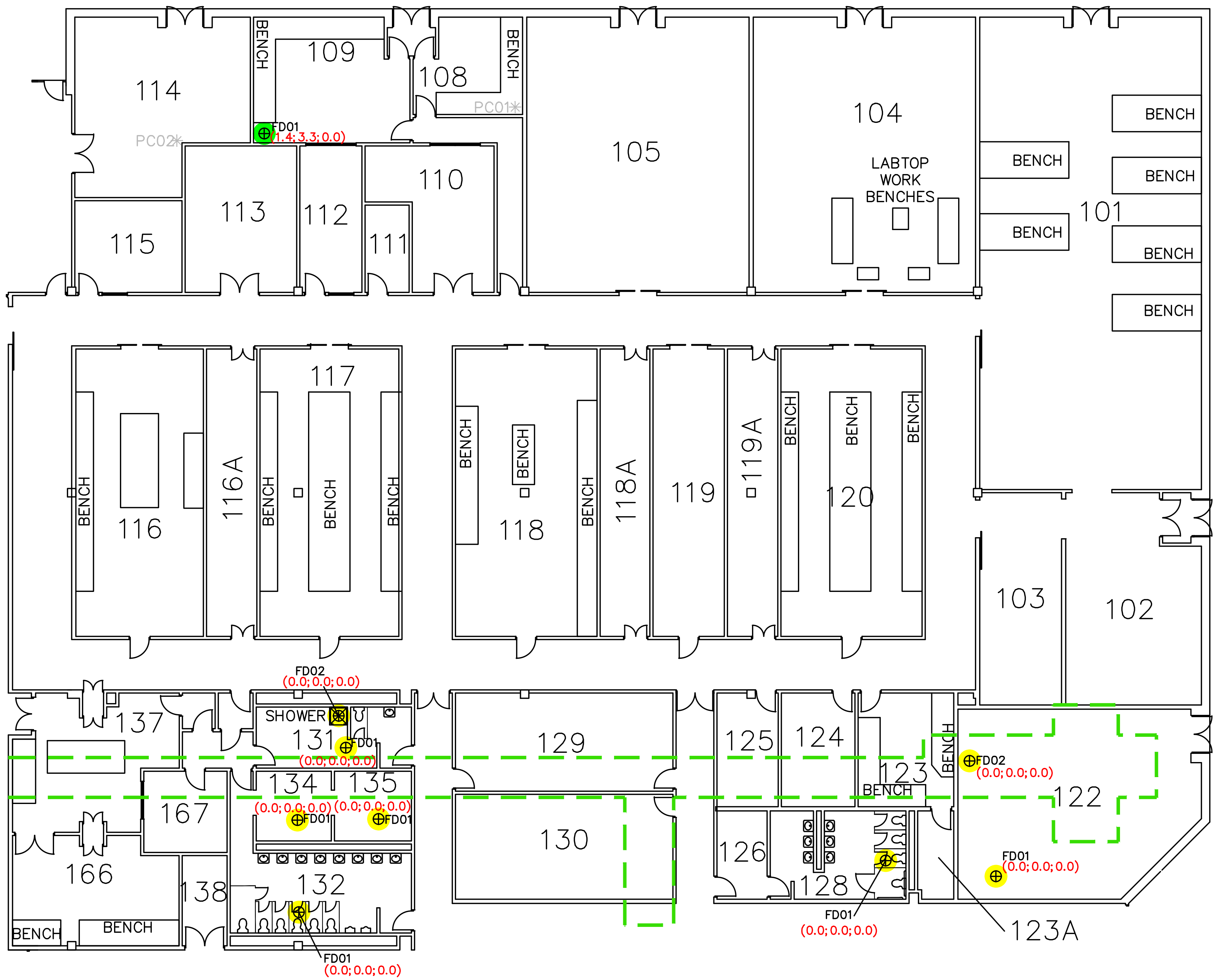

LEGEND

FD01 ⊕ (0.4;0.2;0.0)	FLOOR DRAIN PID RESULT (ppm) (September 2012;October 2012;May 2013)
(yellow circle)	FLOOR DRAIN TO REMAIN OPEN
(green circle)	FLOOR DRAIN TO BE SEALED
(green dashed line)	UTILTY TUNNEL

Notes:
Floor drain screening conducted September 18 and19, 2012, October 22, 2012 and May 3, 2013.
Indoor air samples and outdoor ambient air sample collected October 23, 2012 and May 21, 2013, (Round 1 and Round 2 respectively).
Sub-slab soil gas sample collected October 24 and 25, 2012, and again on May 22 and 23, 2013, (Round 1 and Round 2 respectively).

Abbreviations:

PCE	tetrachloroethene
TCE	trichloroethene
µg/m³	microgram per cubic meter
J	estimated result
U	not detected (with associated detection limit)
PID	photoionization detector
ppm	parts per million
Rd1	Round 1
Rd2	Round 2

GRAPHIC SCALE
0' 20'

FORMER NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

DRAIN LOCATIONS -
AVIONICS AREA

BUILDING 250 AND HANGAR 4
GROUNDWATER AND VAPOR INTRUSION INVESTIGATION

FILE	SCALE
\..\NASB_BLDG_250&H4_B.DWG	PER SCALE BAR

FIGURE NUMBER	REV	DATE
3	0	10/11/13

PHOTOGRAPHS

No. 1 Building 250 and Hangar 4 Floor Drain Sealing, Former NAS Brunswick October 15, 2013
Sealed floor drain FD01 in Room 109, Avionics Area (prior to drain cover reinstallation)

No. 2 Building 250 and Hangar 4 Floor Drain Sealing, Former NAS Brunswick October 15, 2013
Sealed sump floor drain FD01 in Room 158, Air Frames/Ordnance/ Power Plants (AF/O/PP) Area (prior to drain cover reinstallation)

No. 3 Building 250 and Hangar 4 Floor Drain Sealing, Former NAS Brunswick October 15, 2013
Sealed floor drain FD01 in Room 161, AF/O/PP Area (prior to drain cover reinstallation)

No. 4 Building 250 and Hangar 4 Floor Drain Sealing, Former NAS Brunswick October 15, 2013
Sealed floor drain FD01 in Room 170C, Hangar 4Area (prior to drain cover reinstallation)

APPENDIX E

RESPONSES TO MEDEP AND BACSE COMMENTS

RESPONSES TO MEDEP COMMENTS DATED JANUARY 30, 2013
ON
DRAFT TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION FOR BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION, BRUNSWICK, MAINE
(DATED JANUARY 15, 2013)
NOVEMBER 13, 2013

General Comments:

1. **Comment:** The tech memo references the "Soil & Groundwater Screening Investigation Tech Memo" (July 2012) which included the results of the previous soil and groundwater investigation at Hangar 4/Bldg 250. While preliminary results were supplied to MEDEP this tech memo was not. Tetra Tech has since provided MEDEP with the earlier soil borings and survey data, therefore, please remove the references to the earlier technical memorandum and roll all the discussion and data regarding that screening investigation into the final technical memorandum.

   Response: References to the earlier technical memorandum were removed and the text, tables, and figures were revised to include the first phase of groundwater investigation conducted in May/June 2012.

2. **Comment:** Based on a review of the logs for this site, Hanger 1, and on the observed strata at Building 611, MEDEP believes many of the deep well locations are more analogous to Lower Sand wells than Transition wells. Although some locations showed significant inter-bedded silts and clays over a foot thick, other borings were predominantly fine brown sand until the clay surface was encountered, or were screened in sand units that extended for ten feet or more. Since the Transition is defined as mostly silt and clay with minor amounts of sand, MEDEP believes upper or lower sand background units are more appropriate for comparison. (See specific comments below.)

   Response: Please see responses to specific comments below.

3. **Comment:** To support the geologic and hydrogeologic interpretations presented in the report a certified Maine geologist must stamp and sign the report.

   Response: The final (November 2013) version of the report has been stamped and signed by a certified Maine geologist.

4. **Comment:** There is a distinction between Hangar 4 and Building 250 that needs to be maintained throughout the document. Figure 2 should be revised to clearly distinguish the two as the middle of the first floor of the structure is not clearly identified as Hangar 4 or as Building 250. Please check the document for accuracy, particularly Section 5.

   Response: Figure 2 was revised to identify the middle of the structure as the Original Building 250 AIMD Area on the first floor and as the Third Deck Administrative Spaces on the second floor. In addition, references to Hangar 4 and Building 250 have been revised as necessary to accurately reflect the area being discussed.

5. **Comment:** Please submit the groundwater and sub-slab/ambient air data to MEDEP in the current version of our electronic data deliverable.

   Response: The groundwater data for the May/June 2012 and September/October 2012 investigations and the October 2012 (Round 1) vapor intrusion (VI) investigation (sub-slab soil gas, indoor air and ambient air data) were submitted to MEDEP in EDD format on February 6, 2013. In addition, the sub-slab soil gas, indoor air and ambient air data for the May 2013 (Round

1) VI investigation was submitted to MEDEP in EDD format on August 20, 2013.

Specific Comments:

6. Section 2.0, Screening Investigation, June 2012:

a.) **Comment:** Bullet 6: MW-B250-03 is more appropriately classified as a Lower Sand well, please revise. The March 2012 Background Study (Table 5-5) listed the 95% UPL for total manganese as 547 µg/L for Transition and Lower Sand wells, please revise;

Response: MW-B250-03 was reclassified from a Transition well to a Transition/Lower Sand formation well. The background 95 percent UPL for total manganese was revised to 547 µg/L.

b.) **Comment:** Bullet 7: Table 5-5 in the March 2012 Background Study lists the 95% UPL for total sodium as 31,600 µg/L for Lower Sand and Transition wells. Please revise.

Response: The background 95 percent UPL for total sodium in Transition and Lower Sand Units groundwater was revised to 31,600 µg/L.

7. **Comment:** Section 3.1.1, Direct Push Sampling…,1st para: Monitoring wells will not be abandoned until the groundwater investigation is completed, including any additional evaluation of potential upgradient sources, please modify or delete the text. A subset of these wells may be warranted for PFC sampling as well.

Response: The next to last paragraph in this section was revised to read as follows: **"**The 15 temporary wells will be abandoned in accordance with MEDEP guidance after the investigation has been completed by the Navy and abandonment is agreed upon by MEDEP and the EPA."

8. **Comment:** Section 3.2.1, Floor Drain Screening: Please note that the second round of floor drain screening was completed after the heating, ventilation and air condition (HVAC) systems had been operating.

Response: The first sentence in the fourth paragraph was revised to read as follows: "During the second drain screening event, conducted on October 22, 2012 after the Building 250 and Hangar 4 HVAC systems had been activated, all floor drains were re-screened for volatile vapors to verify the initial screening results."

9. **Comment:** Section 3.2.3, Room 155 Floor Drain – Vapor Sampling: It would be helpful to mention that there was also a noticeable petroleum odor associated with the floor drain in Room 155 (FD02 and B250-AIR15).

Response: The first sentence of this section was revised read as follows: "During the October 2012 round, at the request of MEDEP, one vapor sample (and duplicate) was collected from the interior of floor drain FD02 in Room 155 of the AF/O/PP Area, as a petroleum odor was noted in the drain during the initial PID screening of floor drains."

10. **Comment:** Section 4.2.1, Floor Drain Screening, para 2: Please note here and in the table as a foot note that the HVAC unit was on during the second screening of the floor drains.

Response: The first sentence of the second paragraph in this section was revised read as follows: In the follow-up round of floor drain screening conducted 1 month later after the Building 250 and Hangar 4 HVAC system was activated (October 22, 2012), all floor drains were re-screened with a PID to verify the initial screening data.

11. **Comment:** Section 4.2.2, Sub-Slab Soil Gas Sampling Results, para 2: MEDEP is currently revising its approach to vapor intrusion investigations, by moving to a slightly more conservative attenuation factor of 10 (versus 50) and to less conservative Indoor Air Target concentrations based on single contaminant risk values. MEDEP has also developed spreadsheet calculations to assess the total risk from all compounds detected. In addition USEPA has revised its risk values for tetrachloroethene (PCE). As part of its review, MEDEP calculated the total risk for a small number of the most impacted locations and found that the conclusions in this report are not affected by the forthcoming revisions. The sub-slab detections would have triggered the need for indoor air testing, and the data for the indoor air sampling indicate that for the conditions tested no risk criteria are exceeded. MEDEP did not detail differences in the number or type of exceedances for the most restrictive criteria, since the guidance is not yet in place and the conclusions are the same.

    Response: No response necessary.

12. **Comment:** Section 4.2.3, Indoor Air Sampling Results, para 4: The HVAC system actively pulls in outside air so for non-site related compounds the ambient and indoor air concentrations should be similar. This is different than ambient air VOCs "infiltrating" into the building, please reword the final sentence.

    Response: The sentence in question was revised to read as follows: Although the relationship between indoor air and outdoor air is complex, similar concentrations in outdoor ambient air and indoor air indicate that the source of some VOCs in indoor air is partially the introduction of outdoor ambient air, drawn into the building by the Building 250 HVAC system operation.

13. Section 5.0, Findings and Conclusions,

a.) **Comment:** Bullet 1, Soil Characterization: The investigation has demonstrated that there appears to be no significant soil sources outside the building footprint, but it should be noted that the source(s) may be upgradient of Hangar 4/Bldg 250. It also indicates that any residual under the building slab is not greatly impacting groundwater, based on the downgradient monitoring. The sub-slab vapor data is enough to suggest that future excavation of soils under the slab will need to be tested and managed appropriately;

Response: The following sentence has been added as the last sentence in Bullet 1, Soil Characterization: "The possibility of residual soil contamination under the Building 250 and Hangar 4 slab suggests that appropriate soil testing and management practices during future excavation of soil under the slab is warranted."

b.) **Comment:** Bullet 2, Groundwater Characterization: Based on MEDEP's review of the soil logs, please change "Transition" to "Transition/Lower Sand" to reflect the comments above. MEDEP agrees that the presence of most of the VOCs in deeper wells is significant, more significant than the unit screened. Experience at other sites and published data indicate that 5 feet or more of "clean" groundwater separating VOCs from the vadose zone will often prevent soil vapor intrusion. The relatively low shallow groundwater detections indicate that any residual sources under the building footprint have limited mass and/or solubility;

Response: The sentence in question has been revised to read as follows: "All the wells with criteria exceedances are screened in deeper Transition and Lower Sand units, which lie below the Upper Sand Unit."

c.) **Comment:** Sub-Slab Soil Gas Characterization: "This indicates a potential for VI or migration of volatile chemicals from the subsurface into the overlying Building 250."

It should also be noted that there is potential for VI or migration of volatile chemicals into Hangar 4 also since contained some of the highest sub slab soil gas concentrations.

Response: The sentence provided above was revised to read as follows: Soil gas concentrations greater than the SGT levels indicate a potential for VI or migration of volatile chemicals from the subsurface into the overlying Hangar 4 and Original AIMD Area."

Comment: Also if the groundwater does not appear to be the source of the VOCs detected in the soil gas underlying Hangar 4 and Building 250 then it would appear that the release(s) may have occurred from the building to the underlying soil.

Response: the following sentence was added as the last sentence in the Sub-Slab Soil Gas Characterization bullet: "The source of VOCs detected in soil gas samples may be a release(s) that occurred in the building to the underlying soil."

d.) **Comment:** Floor Drain Characterization and Bullet 5, Indoor Air Characterization, Item 2, Pathway to a receptor: For the conditions tested it is more accurate to qualify that indoor air is not impacted when the HVAC system is operational. Please add this to the text;

Response: The last sentence in the Floor Drain Characterization bullet was revised to read as follows: "Indoor air quality was not significantly impacted by the floor drain vapor while the HVAC systems were in operation."

The first sentence in the Indoor Air Characterization bullet was revised to read a s follows: "Direct measurement of VOC concentrations in indoor air indicates that attenuation of vapors from the subsurface is significant and that vapor intrusion is not significant while the HVAC systems are either fully active or partially active."

e.) **Comment:** Last Para (Page 28): The data do show that for the conditions tested there is no remedial action warranted and no indoor air complete pathway. These conclusions are may not be valid if the HVAC is not operating or if construction alters air handling in the building. A warm weather follow-up to this testing, perhaps at a subset of locations, is still warranted. Another round of indoor air monitoring was proposed by the Navy at the December 2012 Restoration Advisory Board Meeting. Please revise.

Response: A second round of VI sampling (sub-slab soil gas and indoor air) was conducted In May 2013.

14. Table 1:

a.) **Comment:** Based on the extent of sands and limited presence of clay in the screened soils MEDEP suggests that the designation for MW-B250-01, MW-B250-02, MW-B250-03, MW-B250-05, MW-B250-06, MW-09-01, and MW-09-227 be changed to "Lower Sand".

Response: The designation for the following wells was changed from Transition to Lower Sand: MW-B250-02, MW-B250-06, MW-09-01 and MW-09-227.

The designation for the following wells was changed from Transition to Transition/Lower Sand: MW-B250-01, MW-B250-03, and MW-B250-05.

Comment: MEDEP also believes that MW-09-022 and MW-09-204 are more appropriately classified as "Upper Sand". Please revise the table.

Response: The designation for MW-09-204 was changed from Transition to Upper Sand.

The designation for MW-09-022 was changed from Transition to Upper Sand/Transition.

RESPONSES TO MEDEP COMMENTS DATED SEPTEMBER 27, 2013
ON
DRAFT FINAL TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION FOR BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION, BRUNSWICK, MAINE
(DATED AUGUST 2013)
NOVEMBER 14, 2013

General Comments:

1. **Comment:** The screening level investigation documented by this Technical Memo is key to the Navy's determination for making a Finding of Suitability to Lease Building 250 (B250) and Hangar 4 (H4) therefore any issues with the tech memo need to be resolved prior to lease/lease addendum. The assessment of the report is complicated in that during the second round of air sampling the Heating, Ventilation and Air Conditioning (HVAC) unit was off on the ground floor (passive air) when the air conditioning should have been operating to mimic normal operating conditions in order to determine the effect on vapor intrusion (VI). Unfortunately without data with the air conditioning (AC) operating it is impossible to assess the effect it would have on on Indoor Air (IA) quality in the building.

   Response: The August 2013 version of the Technical Memorandum misstated the operating status of the Building 250/Hangar 4 HVAC systems during the May 2013 VI sampling. During the May 2013 second round of VI sampling, the building's Hangar 4 hot-water heating was not operating, having been deactivated earlier in the spring, which is consistent with the goal of simulating typical season-specific ventilation and heating/cooling conditions. However, the Building 250 forced-air HVAC system was operational at settings unchanged from the October 2012 sampling event. Section 2 Background has been revised to provide a description of the Building 250/Hangar 4 HVAC systems and Section 3.2 Vapor Intrusion Investigation has been revised to clarify the operating status of the Building 250/Hangar 4 HVAC systems during VI sampling. In addition, the text has been revised in the rest of the document to correctly state the operating status of the HVAC systems.

2. **Comment:** The data collected to date support the conclusion in the report that the VI pathway is incomplete, despite evidence for at least one area of Building 250 (SBS5) where soil gas concentrations of Tetrachloroethene (PCE) are above soil gas targets (SGTs) in both rounds. The indoor air samples unfortunately show that Trichloroethene (TCE) is present in indoor air under passive air conditions at concentrations that exceed Maine's Commercial Worker criteria for single contaminant exposure at AIR7. This raises questions about the future use of the facility, because of the limited amount of data collected. TCE could be off gassing from an interior source not identified, or it could be coming from a sub-slab source not intercepted by the soil gas points sampled for the investigation. It is noted in the report that there is a possibility of residual soil contamination under the Building 250 and Hangar 4. The uncertainty related to the HVAC system is fairly significant also, as it is unknown how interconnected the system is, where intakes and vents are located and whether there is an exchange rate that could be referenced as a baseline for conditions where no indoor air risk is likely. It is unclear if the TCE detections are related to changes in the air circulation/heating between rounds as the first round the building was heated and the second round the air was passive on the ground floor. The impacts to indoor air during other HVAC operations, air conditioning and ventilation, are unknown.

   Response: Please see the response to General Comment No. 1 regarding the operating status of the HVAC systems. As the Building 250 HVAC was operating during May 2013, the air circulation conditions in the Room 160 of the AF/O/PP Area where the indoor air TCE level exceeded the Commercial Worker criterion at AIR7 were not passive.

3. **Comment:** 3. Based on the current information it is impossible for MEDEP to agree with the conclusion that there is no risk to commercial workers. In order to make this determination the Navy will have to initiate a more thorough investigation in order to remediate the source(s) of the vapors or remediate the impacts.

   Response: Section 4.2.3 Indoor Air Sampling Results was revised to include a screening risk analysis. Industrial incremental lifetime cancer risks associated with the measured indoor air concentrations were less than 1 x 10-5, within EPA's target risk range, while the industrial inoncarcinogenic hazard index was 1.4, approximately equal to the target hazard index of 1.0.

4. **Comment:** MEDEP strongly recommends grouting all the floor drains to prevent any future dumping of toxic materials down the drains. If the Navy is going to grout all the floor drains in the building or just some of them, it should be done before any further evaluation of indoor is undertaken. The Navy should also consider sealing any obvious cracks in the floor to reduce flow from the subslab into the work space.

   Response: The draft final technical memorandum stated that the Navy planned to permanently seal floor drains inside the building. The final technical memorandum reports that on October 15, 2013 the Navy permanently sealed 19 floor drains in Building 250 to prevent future unauthorized drain usage. The drain sealing also prevent potential vapor intrusion. The final Section 3.2.1 Floor Drain Screening was revised to advise that as part of the floor drain screening, the building floor was inspected for openings (floor penetrations for utility services, foundation cracks, and joints between foundation walls and floors) that could serve as a soil gas entry or infiltration point. No significant potential soil gas entry points were observed.

5. **Comment:** 5. The renovations on the Third Deck were completed approximately one month prior to the second round of indoor air sampling. The Photo Ionization Device (PID) screening indicated no residual impact from the remodeling, however the PID is not sensitive enough to detect impacts at Maine DEP Indoor Air Targets (IATs).

   Response: The PID used is capable of reading total volatile organic concentrations down to 0.1 ppm (100 ppb). Readings were taken at the renovation sites on the Third Deck as well as in Building 250 with no positive responses recorded. If any residual impacts from the renovations was present at levels great enough to impact air quality on the first floor of Building 250 some response from the PID would have been expected on the Third Deck.

6. **Comment:** For the subslab soil gas, it appears that the soil gas targets (SGTs) in Table 5 are based on "MEDEP Commercial IAT (µg/m3) – 5/8/2013" and were developed with an attenuation factor (AF) of 0.02 which is appropriate using MEDEP 2010 VI Guidance. MEDEP plans to use EPA's AF of 0.03 which would decrease the SGTs in Table 5 by a factor of 0.6. It doesn't appear to affect the data evaluation with the exception of PCE where the SGT goes from 9000 µg/m3 to 5900 µg/m3. So PCE during both sample at SBS5 exceed the 5900 but the location was already flagged as it exceeds the SGTs based upon "EPA Industrial Air RSLs". In summary, there is no need to revise the SGTs. SBS5 is considered an area of concern due to the persistent high levels of PCE in the subslab soil gas.

   Response: While the PCE levels at SBS5 exceed the SGT, concentrations of this VOC in the indoor air samples (AIR5) were very low, well below the IAT value.

Specific Comments:

7. **Comment:** Section 3.2, Vapor Intrusion Investigation, para 1: There is an internal inconsistency regarding whether buildings HVAC was operating. See sentence 2 and sentence 4. Was the Third Deck HVAC heating or cooling at the time of the VI sampling?

Response: Please see response to General Comment No. 1 regarding the operating status of the HVAC systems. The Third Deck HVAC was not operating at the time of the October 2012 VI sampling, and was operating at the time of the May 2013 VI sampling.

8. **Comment:** Section 4.2.3 Indoor Air Sampling Results, Round 1, para 2: The thickness of the slab noted in the report is less important than the lack of breaks or piercings through that slab near the source. Please revise the text to note that the slab is 8 inches thick at SBS5 where the elevated PCE is detected, not 15.

   Response: Please see response to General Comment No. 4 regarding inspection of the building floor for potential soil gas entry or infiltration points. The text was revised to state that the slab thickness at SBS5 is 8 inches thick.

9. **Comment:** Section 4.2.3 Indoor Air Sampling Results, Round 2: The TCE AFs calculated from the data in the report are very low for the Round 2 data. The data indicate that either the subslab sources are not sampled or there is a source within the building not related to VI.

   Response: There is no evidence to suggest that the sub-slab soil gas sample results are not representative of soil gas VOC levels under the Building 250 and Hangar 4 slab. The report text has been revised to state that based on multiple lines of evidence, the presence of TCE in the indoor air is not related to VI from the subsurface.

10. **Comment:** Section 4.2.3 Indoor Air Sampling Results, Summary & Table 3: The conclusion that some of the indoor air concentrations are related to outdoor air is not well supported by the data. Winds were light and easterly, which would put the outdoor sample location downwind of the buildings. The HVAC was off, so air exchange would be minimal. It is just as likely that the TCE detected in outdoor air is related to dispersion from the building, where air concentrations are higher than those outside. Please delete or heavily qualify.

    Response: Please see response to General Comment No. 1. As the Building 250 HVAC system was operating, it is possible that indoor air quality was impacted by contributions from indoor and ambient (outdoor) air sources.

11. Section 5.0, Findings and Conclusions:

    a. **Comment:** In a number of places throughout this section it makes assumptions based on the "HVAC system in operation". The HVAC was only in operation under a heating situation so it is unknown what if any effect there might be if the HVAC was in air conditioning or ventilation mode. Please qualify these statements especially in the last paragraph.

       Response: Please see response to General Comment No. 1.

    b. **Comment:** Bullet 2, Groundwater: Please provide a factual summary of the groundwater characterization rather than downplay the exceedances of MEGS. Please delete the first sentence.

    c. **Response:** Bullet 2 has been revised; however, the Navy does not agree that the first sentence should be deleted.

RESPONSES TO BACSE COMMENTS DATED SEPTEMBER 18, 2013
ON
DRAFT FINAL TECHNICAL MEMORANDUM
GROUNDWATER AND VAPOR INTRUSION FOR BUILDING 250 AND HANGAR 4
FORMER NAVAL AIR STATION, BRUNSWICK, MAINE
(DATED AUGUST 2013)
NOVEMBER 18, 2013

1. **Comment: August 2013 Tech Memo Must Be Finalized**. BACSE cannot support the FOSL Addendum at this time. There are too many questions and concerns about the information contained (and not contained) in the August 2013 Draft Final "*Technical Memorandum, Groundwater and Vapor Intrusion Investigation for Building 250 and Hangar 4, Former Naval Air Station Brunswick, Brunswick, Maine*". The Tech Memo is the source document for the FOSL Addendum and Hangar 4 FOSL, and provides the basis for conclusions and decisions. The Tech Memo is a "draft" document that will likely be revised in response to comments that have not been submitted yet due to the short notice for reviewing and submitting comments on the FOSL and FOSL Addendum. As the source document, the Tech Memo should be revised and finalized and then made available during the public comment period for the FOSL and FOSL Addendum.

   Response: The final technical memorandum was issued November 2013. The final document reflects revisions to the draft final technical memorandum that were based on comments from the U.S. Environmental Protection Agency (EPA), the Maine Department of Environmental Protection (MEDEP), and the Brunswick Area Citizens for a Safe Environment (BACSE).

2. **Comment: HVAC System Operation During Sampling**. The HVAC system was supposed to be operating during both indoor air quality sampling rounds at Building 250. However, during the second round of sampling, the system was apparently only functioning for the third-floor portion of the building that is currently leased. Therefore, the data collected during the second round is not representative of conditions workers in other parts of the building would be exposed to if the HVAC system is required to be operating. However, the second round of sampling did show exceedences of indoor air standards at three locations, which does not support the conclusion of the FOSL Addendum that the building is completely safe. BACSE believes that another round of sampling with the HVAC system operating as it did for the first round of sampling is required before the risks to workers in the building can be evaluated. There is insufficient data at this time to conclude that the indoor air quality conditions in all parts of Building 250 and office spaces in Hangar 4 are safe for all workers all of the time.

   Response: The August 2013 version of the Technical Memorandum misstated the operating status of the Building 250/Hangar 4 HVAC systems during the May 2013 VI sampling. During the May 2013 second round of VI sampling, the building's Hangar 4 hot-water heating was not operating, having been deactivated earlier in the spring, which is consistent with the goal of simulating typical season-specific ventilation and heating/cooling conditions. However, the Building 250 forced-air HVAC system was operational at settings unchanged from the October 2012 sampling event. Section 2 Background has been revised to provide a description of the Building 250/Hangar 4 HVAC systems and Section 3.2 Vapor Intrusion Investigation has been revised to clarify the operating status of the Building 250/Hangar 4 HVAC systems during VI sampling. In addition, the text has been revised in the rest of the document to correctly state the operating status of the HVAC systems.

   As the second round was conducted under conditions simulating typical season-specific ventilation and heating/cooling conditions for an occupied building, the Navy believes that sufficient data was collected to evaluate risks to industrial workers. According to a screening risk analysis presented in the final technical memorandum (Section 4.2.3 Indoor Air Sampling Results) industrial incremental lifetime cancer risks associated with the measured indoor air concentrations were less than 1 x 10-5, within EPA's target risk range, while the industrial noncarcinogenic hazard index was 1.4, approximately equal to the target hazard index of 1.0. The indoor air concentrations in Hangar 4 were extremely low, and the hazard index was driven primarily by the TCE concentration at one sample location in Building 250.

3. **Comment:** **Provide Additional Information About Ambient Air Conditions**. The FOSL Addendum includes statements that are not supported by the information in the Tech Memo. TCE (trichloroethene) is reported to be measured in the second round of outdoor air sampling at thirty times the Statewide Outside Ambient Average for TCE, but no data was provided. Please provide the data for TCE – what are the actual numbers?

   Response: Please see the response to comments for the FOSL Addendum.

   Comment: The outdoor air sampling result for PCE (tetrachloroethene) is eighty times the Statewide Outside Ambient Average for PCE. Please address the source(s) for these significant outdoor air quality concentrations. The PCE and TCE don't just appear out of nowhere – there's a source or sources that need to be identified, not just for indoor air quality but also for the additional potential effect on workers walking, smoking, taking lunch breaks, etc., outdoors.

   Response: The statewide outside ambient averages were presented for informational purposes. As stated in the final technical memorandum, Maine statewide outdoor ambient air averages may not reflect local ambient air quality. The source of the PCE and TCE in the outdoor ambient air sample is unknown; however, the outside air sample location is in an industrial area where multiple potential sources of outdoor air contamination could be present. The Navy has no current operations at former NAS Brunswick that would be a source of PCE and TCE in outside ambient air.

   Comment: Please provide information regarding the air handling system for Building 250 and the office spaces in Hangar 4 and how the elevated VOC concentrations in the outdoor air may or may not be attenuated as outdoor air is drawn into the buildings when the HVAC system is operational.

   Response: Section 2 Background has been revised to provide a description of the Building 250/Hangar 4 HVAC systems.

4. **Comment:** **Complete Vapor Intrusion Pathway**. The Tech Memo, the FOSL for Hangar 4, and the FOSL Addendum conclude there is no complete vapor intrusion (VI) pathway for worker exposure at Building 250 and Hangar 4. BACSE takes issue with this conclusion. According to the Tech Memo, there are three things required for a complete VI pathway; 1) evidence of a source or release of volatile and toxic chemicals; 2) a pathway to the receptor; and 3) a receptor. The Tech Memo acknowledges that there are potential pathways for vapors under Building 250, including utility lines, a utility tunnel, and concrete slab construction joints. Floor drains are another possible migration pathway. Receptors in the form of workers would also be present. However, the Tech Memo concludes in Section 5.0, the FOSL for Hangar 4 in Section 3.2.1, and the FOSL Addendum in Section 3.1, that there is no evidence of a release or source and, therefore, no complete VI pathway, and therefore, the entire building is safe for occupancy.

   BACSE disagrees with the interpretation that there is no evidence of a source or release. In fact, the Tech Memo specifically states in Section 5.0 that the source of VOCs detected in soil gas samples may be a release(s) that occurred in the building to the underlying soil. Furthermore, the Tech Memo states that the "*possibility of residual soil contamination under the Building 250 and Hangar 4 slab suggests that appropriate soil testing and management practices during futures excavation of soil under the slab is warranted*." So clearly the likelihood of soil contamination resulting from release(s) would complete the requirement for a complete VI pathway. In addition, the elevated ambient air concentrations of TCE and PCE indicate atypical conditions, as noted in comment number 3, above. And while the elevated VOC concentrations in groundwater surrounding Building 250 and Hangar 4 are not generally found in the shallowest part of the aquifer where they would pose the greatest VI threat to the buildings, they still are a result of releases of VOCs to the environment. In addition, how does the Navy know there isn't a "slug" of more highly contaminated groundwater that would migrate under Building 250 and/or Hangar 4 at some point in the future, and elevate the vapor intrusion risk for people working inside the buildings? Please revise the VI pathway interpretation.

Response: As discussed in the technical memorandum no evidence of a significant release or contamination was found during the Building 250 and Hangar 4 parcel soil and groundwater investigation, which included spill records research, screening of soils and analysis of groundwater. Based on the low levels of seven VOCs were detected in groundwater during the two groundwater sampling events, the saturated zone does not appear to be the source of most of the VOCs detected in the soil gas underlying the building. Given soil gas target exceedances, it is possible that limited residual soil contamination is present under the building slab. However, there no evidence of a complete VI pathway based on multiple lines of evidence including a lack of correlation between the sub-slab soil gas and indoor air level of VOCs found to exceed screening levels. Since there is a possibility that the source of the soil gas exceedances is residual soil contamination under the building, sub-slab soil testing should be conducted as a precaution prior to any sub-slab soil excavation.

As stated in the final technical memorandum the Navy will work with the EPA and the MEDEP to determine what additional work, if any, is required for groundwater at the parcel.

5. **Comment: Lack of Evidence of Soil Contamination**. Statements about the lack of evidence of residual contamination in the soils surrounding Building 250 and Hangar 4 should be revised to clarify that there were no soil samples collected for laboratory analysis and that the evidence is based on only observations (visual and olfactory) and screening in the field with a photo ionization detector (PID). Please also provide information regarding the sensitivity of the PID – was it capable of measuring down to the part-per-billion range or only to parts per million. This comment applies to the Tech Memo, the FOSL for Hangar 4, and the FOSL Addendum.

   Response: Please see the response to comments for the FOSL for Hangar 4 and the Building 250 FOSL Addendum.

6. **Comment: List All VOCs in Groundwater.** To provide context for the discussion of the groundwater results and exceedances in Section 3.1 of the FOSL Addendum and Section 3.1.2 of the FOSL for Hangar 4, please list all the VOCs detected in groundwater, not just the parameters with exceedances. In addition, please revise the paragraph to note that at least one "shallow" well, MW-B250-04, had an exceedance of TCE.

   Response: Please see the response to comments for the FOSL for Hangar 4 and the Building 250 FOSL Addendum.

7. **Comment: Floor Drain Results.** The paragraph regarding the sampling of the floordrains should be revised to more accurately repeat the information presented in the Tech Memo, which states that the floor drains were tested when the HVAC system was operating. The final sentence implies sampling was conducted both when the HVAC system was operating and when it was not, and that the impact of the floor drains was noticeably different each time. If the floor drains were sampled again when the HVAC system was off, please add the data. Please also add information about sealing floor drains – has it already been done, will it be done before the additional space is leased, or will the new occupants of the building be required to seal them?

   Response: Please see the response to comments on the FOSL for Hangar 4 and the Building 250 FOSL Addendum.

8. **Comment: Find the Source of Indoor TCE Concentrations**. During the second round of indoor air sampling, TCE was found to exceed indoor air criteria at three locations. Because the second-round TCE concentrations at the soil gas sampling locations were not elevated above the first-round levels, the Tech Memo (Section 5.0) concludes "This indicates that the presence of TCE in indoor air may not be a result of vapor intrusion." What steps will the Navy take to find the source(s) of the TCE detected in the indoor air samples so the source(s) can be eliminated in order to provide a safe working environment?

   Response: Please see the response to comment No. 2 above.

9. **Comment: Future Investigations and Remedial Measures.** Both the FOSL Addendum and the Hangar 4 FOSL (and any related transfer or lease agreements) must include language that will allow the Navy to investigate the contamination that is known to exist in air, soil, and groundwater at this site and to implement remedial measures necessary to address risks. This includes, but is not limited to, activities such as the installation and sampling of monitoring wells to address groundwater contamination, installation of test pits and borings to address soil contamination, both under and in areas surrounding the buildings, installation of testing devices and sampling of outdoor air, installation and monitoring of indoor air quality measurement devices, and the implementation of remedial measures to address the various contaminated media.

   Response: Please see the response to comments on the FOSL for Hangar 4 and the Building 250 FOSL Addendum.