# Maryland Air National Guard Munitions Area Soil Vapor and Indoor Air Investigation Report Martin State Airport Middle River, Maryland

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# ACRONYMS

| | |
|---|---|
| ASG | Automated Services Group |
| ASTM | American Society for Testing and Materials |
| AZP | Airport Zoning Permit |
| BTEX | benzene, toluene, ethylbenzene, and xylenes |
| *ca* | carcinogenic |
| c-1,2-DCE | cis-1,2-dichloroethene |
| COC | chain of custody |
| cVOC | chlorinated volatile organic compound |
| DERP | Defense Environmental Restoration Program |
| DPT | direct push technology |
| DRO | diesel range organics |
| DRA | Dump Road Area |
| EE/CA | engineering evaluation/cost analysis |
| EESH | energy, environment, safety, and health |
| EGIS | environmental geographic information system |
| EM | electromagnetic |
| Enviroscan | Enviroscan, Inc. |
| ERA | ecological risk assessment |
| FAA | Federal Aviation Administration |
| FMC | Frog Mortar Creek |
| GC/MS | gas chromatography/mass spectrometry |
| GIS | geographic information system |
| GPR | ground penetrating radar |
| GPS | global positioning system |
| HASP | health and safety plan |
| HERO | hazards of electromagnetic radiation to ordnance |
| HHRA | human health risk assessment |
| HVAC | heating, ventilation, and air conditioning |
| IAQ | indoor air quality |
| IDW | investigation derived waste |
| IR | (U.S. Department of Defense) Installation Restoration program |
| IRIS | Integrated Risk Information System |

| | |
|---|---|
| Lockheed Martin | Lockheed Martin Corporation |
| MAA | Maryland Aviation Administration |
| MCL | maximum contaminant level |
| MDANG | Maryland Air National Guard |
| MDE | Maryland Department of the Environment |
| MDL | method detection limit |
| MDOT | Maryland Department of Transportation |
| MES | Maryland Environmental Service |
| MRC | Middle River Complex |
| MSA | Martin State Airport |
| msl | mean sea level |
| PA | preliminary assessment |
| PAH | polycyclic aromatic hydrocarbon |
| PCE | tetrachloroethene |
| PDF | portable document format |
| PM | project manager |
| PPE | personal protective equipment |
| PSI | public sector information |
| QA/QC | quality assurance/quality control |
| RCRA | Resource Conservation and Recovery Act |
| RI | remedial investigation |
| SDG | sample delivery group |
| SI | site investigation |
| SVOC | semivolatile organic compounds |
| TCE | trichloroethene |
| Tetra Tech | Tetra Tech, Inc. |
| TPH | total petroleum hydrocarbons |
| USACE | United States Army Corps of Engineers |
| USDOT | United States Department of Transportation |
| USEPA | United States Environmental Protection Agency |
| UXO | unexploded ordnance |
| VC | vinyl chloride |
| VOC | volatile organic compounds |

# Section 1
# Introduction

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech, Inc. (Tetra Tech) has prepared the following report documenting an investigation of soil vapor and indoor air at the Munitions Area of the Maryland Air National Guard (MDANG) installation at Martin State Airport (MSA) in Baltimore County, Maryland. The property is part of Martin State Airport and is currently owned by the Maryland Department of Transportation (MDOT). Maryland Air National Guard occupies a portion of Martin State Airport, including the Munitions Area, leased from the Maryland Aviation Administration (MAA) by the National Guard Bureau. The objectives of this investigation are to:

- perform a soil vapor and indoor air quality (IAQ) monitoring investigation to evaluate possible volatile organic compounds (VOCs) in soil vapor and indoor air at the Munitions Area
- establish a soil vapor monitoring grid that includes north–south transects of sampling locations in the Munitions Area to help assess whether the northern extent of the Dump Road Area (DRA) plume of volatile organic compounds extends beneath the Munitions Area

The investigation objectives were achieved through the following activities:

- obtaining utility clearances from Miss Utility and a private utility locating firm
- obtaining Digging Permit AF IMT 103 for intrusive investigations from the Maryland Air National Guard
- installing 22 temporary soil vapor probes in key areas of the Munitions Area using direct push technology (DPT) to a depth of approximately five feet below grade, adjusted appropriately depending on the depth to groundwater
- collecting 22 soil vapor samples (one sample per temporary vapor sampling point) to characterize volatile organic compounds in the shallow subsurface soil of the Munitions Area
- collecting three indoor air quality samples from inside Maryland Air National Guard facility buildings in the Munitions Area using Summa® canisters over an eight hour sampling period, in conformance with United States Environmental Protection Agency (USEPA) Method TO-15

- analysis of soil vapor and indoor air samples by a state-accredited laboratory for volatile organic compounds by United States Environmental Protection Agency Method TO-15
- evaluating environmental sampling data
- reporting results

This report is organized as follows:

Section 2—Site Background: Briefly describes the site history, subsurface conditions, and previous investigations.

Section 3—Investigation Approach and Methodology: Presents the technical approach to the investigation and describes the field methodologies used.

Section 4—Investigation Results: Discusses the results of the field program.

Section 5—Summary and Recommendations: Summarizes the investigation program and findings, and provides recommendations for further investigation.

Section 6—References: Cites references used to compile the report.

# Section 2
# Site Background

This section includes background information for the Maryland Air National Guard (MDANG) site at Martin State Airport (MSA). Much of the information presented herein pertains to Martin State Airport, within which the MDANG facility and the Munitions Area are located.

## 2.1 SITE DESCRIPTION

### 2.1.1 Location

MSA is at 701 Wilson Point Road in Baltimore County, Middle River, Maryland, bounded by Frog Mortar Creek (FMC) to the east and Stansbury Creek to the west (Figure 2-1). Both creeks eventually join Middle River and flow into Chesapeake Bay south of the airport. The MDANG facility is at 2701 Eastern Boulevard, in the northeastern quadrant of MSA. It is part of MSA and is currently owned by the Maryland Department of Transportation (MDOT). The National Guard Bureau leases a portion of MSA, including the Munitions Area, from the MAA.

### 2.1.2 History

MSA was owned and operated by the Glenn L. Martin Company from approximately 1929-1975. Glenn L. Martin Company is the predecessor entity of Martin Marietta Corporation. In 1929, Glenn L. Martin, an aviation designer and builder, purchased 1,260 acres of land approximately 12 miles east of Baltimore for a manufacturing facility for the Glenn L. Martin Aircraft Company. Three runways, Hangars 1, 2, and 3, and the Airport Administration building were built in 1939–1940. Hangars 4, 5, and 6 and the Strawberry Point Hangar were completed in 1940 and 1941. Various aircraft were produced in these facilities. After World War II, commercial transports and jet aircraft were produced at MSA.

In July 1955, the MDANG 104$^{th}$ Tactical Fighter Group began leasing property from the Glenn L. Martin Company. On April 1, 1960, the 135$^{th}$ Tactical Airlift, previously based in Baltimore, was transferred to MSA, and by October 1962, the 104$^{th}$ Tactical Fighter Group had been reorganized and designated the 175$^{th}$ Tactical Fighter Group. The Glenn L. Martin Company

consolidated with American Marietta Corporation in September 1961 to form Martin Marietta Corporation. On September 20, 1975, MAA purchased the 747 acres that are now used as the airfield.

### 2.1.3 Current Conditions

MDANG leases a portion of the MSA airfield for its operations. The MDANG facility is comprised of 175 acres in the northeastern portion of MSA. The facility is fenced and has a separate entrance from Eastern Boulevard. The site is currently developed with runways, parking aprons, operations and training buildings, general supply and ammunition storage facilities, fuel storage structures, maintenance shops and sheds, and aircraft hangars. The southern boundary of the leasehold extends to the ponds at the Dump Road Area (DRA); these ponds are in an undeveloped area.

### 2.1.4 Land Use

MSA is generally characterized as a moderately developed tract in a largely suburbanized, moderate density, populated setting. Land use surrounding MSA is, to a significant degree, a combination of mixed suburban, industrial, and commercial lightly to moderately developed tracts and woodland tracts. The northern boundary of MSA is bordered by Eastern Boulevard (Maryland Route 150) and AMTRAK railroad lines. Undeveloped woodland tracts and low-density, residential properties are north of MSA and the AMTRAK line.

The MSA's eastern, southern, and western boundaries are bordered by FMC and Stansbury Creek, which are wide, brackish, tidal tributaries of the middle Chesapeake Bay. Lockheed Martin Corporation's (Lockheed Martin) Middle River Complex (MRC), currently used to assemble military launch electronics and aircraft parts, lies along MSA's northwestern boundary. Low- to medium-density residential and light commercial land uses (e.g., shopping centers, convenience stores, restaurants, etc.) lie beyond the creeks east, south, and west of MSA. Farther east and west from MSA are the high-density residential communities of Bengies Corner and Hawthorne Park. The town of Middle River is approximately 1.5 miles northwest of MSA.

The MDANG facility is in the northeastern quadrant of MSA. Land use is industrial/commercial. The MDANG facility is comprised of runways, parking aprons, operations and training buildings, general supply and ammunition storage facilities, fuel storage structures, maintenance shops and sheds, and aircraft hangars.

The Munitions Area (see Figure 2-2) is on the southern end of the MDANG leasehold. The Munitions Area comprises approximately five acres of mostly open land bordering FMC. The area is east of Lynbrook Road and north of the DRA. The Munitions Area has three buildings, all founded on concrete slabs at grade. Along the south side of the Munitions Area is a bunker that is also a slab at grade, but it is covered by an earthen mound. A drainage feature associated with the wetland area on the west side of the Munitions Area runs east to FMC, bisecting the Munitions Area. The three buildings are north of this drainage feature; the bunker is south of it.

### 2.1.5 Climate

The local climate is characterized as humid/temperate, with hot humid summers and relatively mild winters. The Middle River, Maryland area receives an average of 42 inches of precipitation annually, distributed evenly throughout the year. Rainfall normally occurs in the summer as showers and thunderstorms. In winter, precipitation is typically light to heavy rainfall or snow. Tropical storms in late summer and fall, and occluded, meso-scale frontal systems (i.e., coastal low pressure systems) in winter and spring occasionally provide short-term above-average precipitation.

### 2.1.6 Physiography

The site is on the western side of the Coastal Plain physiographic province. The Coastal Plain consists of sediments composed of alluvium from the Pleistocene Epoch and material from the Potomac Group (from the Cretaceous Period). Coastal Plain sediments begin at the Fall Line and follow a regional dip to the southeast at approximately 110 feet per mile (Hansen and Edwards, 1986). The Fall Line is the division between the Piedmont and Atlantic Coastal physiographic provinces. Its name refers to an imaginary line connecting waterfalls or changes in stream flow between the hard-rock upland areas of the Piedmont and the soft-sediment lowland areas of the Coastal Plain. The Coastal Plain is generally characterized by low topographic relief. However, steep embankments and hills are found along stream channels, rivers, and Chesapeake Bay.

### 2.1.7 Topography

Most of MSA's land surface is generally flat to gently sloping in the areas of the runway, taxiways, and surrounding support operations. A steeply sloped embankment along the FMC shoreline separates the facility from the creek; the bank is comprised of fill placed there as part

of airport construction. The airport's runway forms a northwest–southeast trending topographic ridge (i.e., drainage divide) that gently slopes from the northwest end to the southeast end of the airport. Runway elevations range from slightly more than 20 feet above mean sea level (msl) at the northern end of the runway to slightly more than 10 feet above msl at the southern end of the runway. The land slopes away from the runway toward FMC to the northeast and Stansbury Creek to the southwest.

In general, MDANG site topography is relatively flat, sloping gently toward FMC. Land elevations are approximately 20 feet above msl at a mounded area near the embankment bordering FMC. The elevation at the top of the embankment ranges from approximately 10 feet above msl at the northern portion of the DRA to approximately 20 feet above msl in the southern portion. Land surface elevation at the FMC shoreline is at mean sea level.

### 2.1.8 Surface Water Hydrology

The eastern, southern, and western boundaries of MSA are bordered by FMC and Stansbury Creek, which are wide, brackish water, tidal tributaries of the middle Chesapeake Bay. Surface water runoff from MSA enters these creeks via localized gullies in the eastern and western undeveloped portions of the site, or via storm sewers that drain the airport runway, taxiways, and developed portions of the facility. MSA encompasses 47 drainage areas in three watersheds, forming a total drainage area of 700 acres (MAA, 2009). The airport drainage areas range in size from seven acres to more than 170 acres.

In the MDANG facility and Munitions Area, four drainage areas drain the runway, taxiways, and wooded areas, discharging to FMC on the eastern side of the facility. One drains the taxiways, runway, and hangars discharging to Stansbury Creek on the western side of the airport. The remaining drainage areas include two small ponds (Ponds #1 and #2) and wetlands (both in the DRA) and a storm water management pond near the Fire Pump House (in the western portion of MSA). These ponds and the DRA wetland are contained within each drainage area and do not discharge to FMC. The storm water pond near the Fire Pump House discharges to the upper reaches of the Stansbury Creek tidal area.

### 2.1.9 Geology and Hydrogeology

MSA is on the western side of the Coastal Plain physiographic province. Regional and local studies (Vroblesky and Fleck, 1991; Chapelle, 1985) indicate that MSA lies on the Patapsco

Formation. This formation consists of complex and interbedded mixtures of gray, brown, and red sands, silts, and clays originating from sediment deposition in a low coastal plain traversed by low-gradient meandering streams.

Below the Patapsco Formation lies a regionally extensive, thick, clay confining-unit known as the Arundel Formation. It is a massive and probably impermeable unit underlying the site and surrounding area. The Arundel Formation outcrops northwest of the site and dips and thickens to the southeast. The Arundel Formation extends as far east as Cambridge, Maryland, where it is more than 600 feet thick.

Regional lithologic information indicates that the Arundel Formation may be as thick as 150 feet at MSA (Vroblesky and Fleck, 1991; Chapelle, 1985). The formation probably acts as an impermeable barrier to the downward movement of any constituents found in the surficial aquifer. The base of the Arundel Formation (i.e., the top surface of the deeper Patuxent Formation) is approximately 225 feet below msl near MSA (Vroblesky and Fleck, 1991; Chapelle, 1985). Therefore, the depth to the base of the Arundel Formation may range from 235-255 feet below grade at MSA.

Below the Arundel Formation is the Patuxent Formation. It is a multi-aquifer unit comprised of various interbedded sand and silt/clay layers with rapid changes of deposited material types over short distances. Permeable, sand-rich units range from bounded sand sheets to isolated sand bodies (Glaser, 1969). In the MSA area, potentiometric maps of the Patuxent Formation indicate that groundwater flows to the south and southwest in response to industrial wells withdrawing water southwest and west of the site (Chapelle, 1985 and Curtin, 2006).

## 2.2 MARYLAND AIR NATIONAL GUARD AND MARTIN STATE AIRPORT PREVIOUS INVESTIGATIONS

As shown in Table 2-1, several investigations have been performed at MSA. A brief summary of these investigations follows. In 1988, Automated Services Group, Inc. (ASG) conducted a preliminary assessment (PA) of MDANG facilities for the Maryland Department of the Environment (MDE) (ASG, 1988). The PA identified several areas of concern, including locations near pits reportedly used by the Glenn L. Martin Aircraft Company in the 1930s and 1950s for materials disposal. These areas are subject to regulation under the federal Resource Conservation and Recovery Act (RCRA).

Previous investigations at the MDANG facility were conducted under the U.S. Department of Defense Defense Environmental Restoration Program (DERP) and Installation Restoration (IR) program. Sixteen DERP sites were identified as warranting further investigation. Several investigations were subsequently performed, and all DERP sites at the MDANG facility have since received "No Further Action Concurrence" from MDE.

In July 1991, drums containing dried zinc-chromate paint were uncovered during installation of underground electric cables adjacent to Taxiway Tango (Figure 2-3); MAA removed these drums. MDE ordered additional studies when the drums were discovered. In October 1991, MAA contracted with Handex Environmental Management to survey the site. Large geophysical anomalies were detected northeast of the drum removal area and an additional anomalous area was identified in the northwestern corner of the study area (Handex, 1992).

Upon review of the Handex report, MDE asked MAA to further investigate and remediate the drum site. In response, MAA conducted a records and public sector information [PSI] search and, subsequently, a field investigation during which soil, soil vapor, and groundwater samples were collected. Methyl ethyl ketone and chlorinated volatile organic compounds (cVOCs) (such as tetrachloroethene [PCE], trichloroethene [TCE] and vinyl chloride [VC]) were detected in soil samples. Several volatile organic compounds (VOCs) were detected in groundwater at concentrations exceeding United States Environmental Protection Agency's (USEPA) maximum contaminant levels (MCLs) for safe drinking water by more than a factor of 1,000 (Maryland Environmental Service [MES], 1994).

MAA conducted a subsequent confirmation investigation to further delineate the extent of contamination at the drum site. Soil and groundwater samples were collected during the field program. The investigation indicated that higher concentrations of contaminants in soil correlated with identified geophysical anomalies. In groundwater samples, elevated concentrations of total petroleum hydrocarbons (TPH), VOCs, and semivolatile organic compounds (SVOCs) were detected, and concentrations of several metals (chromium, lead, and nickel) exceeded their respective MCLs at many sampling locations (MES, 1994).

MAA conducted an expanded investigation of soil and groundwater in 1996 to evaluate potential human health risks. Soil, groundwater, and sediment samples from the ponds were collected. TPH-diesel range organics (DRO) were detected at elevated levels in soils, and TCE was

detected at elevated levels in both soil and groundwater samples. The TCE concentration at one well was four orders of magnitude greater than the MCL.

In late 1997, MAA conducted an investigation to evaluate possible impacts of surface water and bottom sediments in FMC. Several metals exceeded comparison criteria in surface water samples, and copper and several SVOCs (primarily polycyclic aromatic hydrocarbons [PAHs]) were detected at high concentrations in sediment samples (Apex Environmental, 1998). However, MES determined that the SVOC concentrations in sediment were comparable to levels found in other sediment samples collected in the Chesapeake Bay, and that they posed no public health or environmental concerns with respect to surface water or bottom sediment quality.

Groundwater samples were collected in March 1999 to obtain updated chemical data on groundwater quality and elevations and flow direction at the southeast portion of MSA. Groundwater samples confirmed the presence of TCE, cis-1,2-dichloroethene (c-1,2-DCE), and VC at concentrations exceeding both MDE groundwater standards and USEPA MCLs. Groundwater level measurements confirm that shallow groundwater flows from the runway and taxiway area to the southeast and east, toward FMC (Tetra Tech, 1999).

A remedial investigation (RI) was conducted at MSA from March 2000–October 2009 to determine the nature and extent of environmental impacts in soil, groundwater, surface water, and sediment. Data collected from this investigation were used to complete a human health risk assessment (HHRA) and an ecological risk assessment (ERA), as well as to assess the need for additional sampling for potential remedial actions, or to justify no further action. The RI identified surface and subsurface soil impacts and identified four areas as primary source areas. Detailed information about the RI and its results can be found in the *Remedial Investigation Report—Martin State Airport* (Tetra Tech, 2010).

The investigations detailed above identified several areas of concern at MSA, described below (see Figure 2-3):

- *Taxiway Tango Median Anomaly Area*—This is the area between Taxiway Tango and the airport runway, northwest of Taxiway D, where four buried drums containing dried zinc-chromate paint were unearthed and removed in 1991. A construction drawing indicates the presence of fill and trash, and an initial geophysical survey indicated several electromagnetic anomalies, suggesting buried metal.

- *Drum Area*—This area is in the forested area northeast of Taxiway Tango where several drums were uncovered when surface vegetation was cleared during a 1996 site investigation. It is near wells MW2 and MW5.

- *Two ponds*—These ponds are approximately 450 feet and 600 feet, respectively, northeast of Taxiway Tango. Historical records indicate that acids may have been discharged at the present location of the two ponds sometime during the 1950s and 1960s.

- *Petroleum Hydrocarbon Area*—The Petroleum Hydrocarbon Area is approximately 200 feet west of the ponds. Petroleum hydrocarbons were encountered while drilling a soil boring during the 1996 site investigation.

- *Dump Road Area*—This area is along the northeast side of the runway at MSA. A portion of the area extends to the west across Taxiway Tango into the median between the taxiway and runway. Chlorinated VOCs were detected during previous studies in this area. Site investigations at MSA have identified soil and groundwater impacts associated with past activities. The areal extent of VOC impacts in this area has, for the most part, been delineated; exceptions include the areas around the MDANG bunkers and, to a lesser extent, the area between the runway and Taxiway Tango. Figure 2-4 shows the groundwater plume extent based on contours generated by a groundwater model based on TCE concentrations, the most prevalent VOC.

TCE and TCE-degradation daughter products were detected in groundwater throughout the MSA investigation area, with the highest concentrations detected in monitoring well MW5 located north/northeast of the historical Drum Area. The TCE Groundwater Plume Maps showing the surficial, intermediate and deep aquifers are presented in Figure 2-4. The groundwater monitoring well locations are presented in Figure 2-5. Petroleum–related benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in groundwater at several site locations, but BTEX is not as widespread as the cVOCs. The northern extent of the DRA groundwater VOC plume has been estimated to be close to the southern boundary of the Munitions Area. The soil vapor monitoring grid used in this investigation included north–south transects of sampling locations in the Munitions Area to assess whether the northern extent of this VOC plume extends beneath the Munitions Area.

**TABLE 2-1**

**SUMMARY OF DUMP ROAD AREA INVESTIGATIONS**
**LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND**


| Report | Report Date | Fieldwork Date | Geophysical Survey/Utility Survey | Soil Gas | Soil Borings | Test Pits | Well Installation | Groundwater | Surface Water | Sediment | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Geophysical Survey Report, (Handex, 1992) | February 1992 | October 1991 | A geophysical survey consisted of the EM-31, ground penetrating radar (GPR), and limited magnetometry (LM) surveys of a 1600-foot by 200-foot area along Taxiway Tango and north of Taxiway D | None | None | None | None | None | None | None | The geophysical investigation spurred by the encounter of four Drums in July 1991, discovered large geophysical anomalies indicating the presence of metal were detected northeast of the July 1991 drum removal area. |
| Preliminary Site Investigation, (MES, 1994) | May 1994 | January 1994 | None | 15 samples (thrirteen collected 4 feet bgs and two collected 3.5 feet bgs)<br><br>Analyzed for TPH, GRO, VOCs, and BTEX | 16 soil samples collected. 13 DPT samples (between 2 and 6 feet), and 3 samples during the installation of piezometers (between 9 and 11 ft.).<br><br>Analyzed for TCLP metals, TCLP VOCs, pH, ignitability and sulfide. | None | 3 wells<br><br>PZ-1, PZ-2, and PZ-3<br><br>Slug Tests | 11 groundwater samples taken from 3 piezometers and 8 DPT locations.<br><br>Analyzed for VOCs, metals, and water quality parameters. | None | None | Petroleum saturated / contaminated soils were present in select samples. Soils and gound water in the vicinity of some of these sample locations are heavily contaminated at the levels which would classify it as hazardous waste. TCE was detected at a concentration of 92,000 ug/L and toluene at 42,000 ug/L at probe GW-9 at depth of 5 to 6 feet. The extent of contamination of soils and ground water was not defined in this investigation. |
| Confirmation Investigation (MES, 1995) | January 1995 | July-August 1994 | None | None | 78 Soil samples collected from DPT methods as well as during MW well installation.<br><br>Analyzed for TPH, VOCs, SVOCs, and total metals. Select samples were analyzed for full TCLP parameters. | None | Install 3 wells<br><br>MW-1, MW-2 and MW-3 | 33 ground water samples were analyzed including 5 duplicates, and a blank, 24 probe samples and 3 well samples.<br><br>Groundwater samples analyzed for VOC, SVOCs, metals, sodium, chloride, and TPH. | One acid pit / pond sample | None | MES concluded that disposal of petroleum products and chlorinated solvents has had an adverse impact on soils and ground water at the site. Generally the locations of higher concentrations of contaminants correlate with the anomalies found in the geophysical survey and initial field investigation conducted in January of 1994. Samples collected in the shallow water table with elevated concentrations of TPH, VOCs, and SVOCs show that the impacted soils are leaching into the ground water. |
| Expanded Investigation (MES, 1996) | July 1996 | January - February 1996 | None | None | 15 samples from 25 bore holes and 3 monitoring wells.<br><br>Analyzed for VOCs, SVOCs and heavy metals. | None | Install 3 wells<br><br>MW-4<br>MW-5<br>MW-6<br>Slug tests | 10 samples were collected from temporary screens in bore holes at various locations along the grid. 6 wells and 3 piezometers were also sampled.<br><br>Analyzed for VOCs, SVOCs, and heavy metals. | None | Sediment sampling of two acid pits or ponds; analyzed for TCLP organics and inorganics. | Deteriorated drums were discovered northeast of Dump Road area; contents tested TCLP hazardous for chromium; drum contents were containerized; Air photos from 1952 and 1957 show an open dump area adjacent to what is now Taxiway Tango and Acid Pit #1 (i.e., Pond No. 1). Thick smoke emissions appeared to be emanating from the vicinity of the Acid Pit area. Average hydraulic conductivity of 2.5 feet per day estimated from the wells. Performed Human Health Risk Assessment as part of the study. Select soil and groundwater samples were analyzed for full TCLP parameters. |

**TABLE 2-1**

**SUMMARY OF DUMP ROAD AREA INVESTIGATIONS**
**LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND**


| Report | Report Date | Fieldwork Date | Geophysical Survey/Utility Survey | Soil Gas | Soil Borings | Test Pits | Well Installation | Groundwater | Surface Water | Sediment | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frog Mortar Creek Sediment Sampling (Apex, 1998) | January 1998 | December 1997 | None | None | None | None | None | None | 9 samples collected in Frog Mortar Creek. Analyzed for VOCs, SVOCs, metals, cyanide and pH. | 6 samples collected in Frog Mortar Creek. Analyzed for VOCs, SVOCs, metal, cyanide and pH. | All metals except mercury were detected in the surface water samples. PAHs and metals, with the exceptions of antimony, beryllium, mercury and silver, were detected in the sediment samples. Surface water pH levels were nearly neutral (pH range of 6.8 to 7.1). Sediment pH levels were slightly acidic (pH range of 6.6 to 6.9). |
| Groundwater Monitoring Well Surveying and Sampling Report, (Tetra Tech, 1999) | May 1999 | March 1999 | None | None | None | None | None | 6 existing wells and 1 piezometer were sampled.<br><br>Analyzed for TPH, VOCs, SVOCs, and metals. | None | None | Eight samples including 2 duplicates were collected from the 6 GW and 1 piezometer wells. |
| Source Identification and Assessment Report (Tetra Tech, 2000) | September 2000 | March-May 2000 | A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the excavation areas. | None | 83 samples taken from the test pits and from soil borings.<br><br>Analyzed for VOCs, SVOCs, heavy metals, and PCBs/pesticides. | 7 Test Pits/Excavations | 12 temporary wells. | 12 Samples<br><br>Analyzed for VOCs, SVOCs, pH, heavy metals and PCBs/pesticides. | None | 4 Samples collected from Pond #1 and Pond #2. | Fifteen 55-gallon and 1 30-gallon drum, readings above 2000 ppmv, and inactive ordinance (consisting of a 100 pound bomb, two 1,000 pound bombs, and a 2,000 pound bomb) were discovered. |
| Chemical Delineation and Groundwater Monitoring Report (Tetra Tech, 2002) | December 2002 | March-October 2002 | A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed sampling locations were clear. | None | 20 Samples<br><br>Analyzed for VOCs, SVOCs, hexavalent chromium, heavy metals, and PCBs/pesticides. | None | Insall 4 wells<br><br>DMW-1A<br>DMW-1B<br>DMW-2A<br>DMW-2B | 6 previous wells, 4 new wells, and 46 temporary wells were sampled.<br><br>Analyzed for VOCs, SVOCs, hexavalent chromium, heavy metals, and PCBs/pesticids. | None | None | All GW samples were analyzed for VOCs, SVOCs, Priority Plutant Metals, TPH, hexavalent chromium, PCBs, and pesticides. All twenty soil samples were analyzed for VOCs; nineteen samples were analyzed for total priority pollutant metals, and hexavalent chromium; seven samples were analyzed for gasoline, diesel, and residual range organics; and six samples were analyzed for SVOCs. |

**TABLE 2-1**

**SUMMARY OF DUMP ROAD AREA INVESTIGATIONS**
**LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND**


| Report | Report Date | Fieldwork Date | Geophysical Survey/Utility Survey | Soil Gas | Soil Borings | Test Pits | Well Installation | Groundwater | Surface Water | Sediment | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Final Data Gap Investigation and Modeling Report (Tetra Tech, 2004a) | May 2004 | September - December 2003 | A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed well locations were clear. | None | 11 Soil samples were collected at depths corresponding to changes in major lithologic zones.<br><br>Evaluated for various geotechnical properties such as soil porosity, bulk density, moisture content and total organic carbon. | None | 28 permanent wells and 4 temporary wells.<br><br>DMW-1S through DMW-10S<br>DMW-3I through DMW-11S<br>DMW-3D through DMW-9D<br>MW7<br>TT-11-TT-14.<br>Slug Test | Quarterly GW sampling event of the 10 existing wells, the 28 new wells, and the 4 Temporary wells.<br><br>Analyzed for VOCs, SVOCs, metals, and pesticides. Select wells were also analyzed for nitrate, sulfate, and iron. | None | None | The intent of the data gap investigation was to determine the extent of chemicals in groundwater plumes at the southeast portion of MSA. The Specific objectives completed during the investigation were to deliniate the eastern and western extent of chemicals in groundwater, characterize VOC plumes, characterize site geology, and conduct quarterly groundwater monitoring. This groundwater sampling even is the baseline event for the upcoming quarterly sampling events. |
| December 2003 Quarterly Groundwater Sampling Report (Tetra Tech, 2004b) | May 2004 | December 2003 | None | None | None | None | None | Quarterly GW sampling event of the 38 permanent and the 4 temporary wells.<br>See comments for analysis. | None | None | All Samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. Bio-parameters consisting of nitrate, sulfate, and iron (III) were also analyzed at selected deep well locations |
| March 2004 Quarterly Groundwater Sampling Report (Tetra Tech, 2004c) | June 2004 | March 2004 | None | None | None | None | None | Quarterly GW sampling event of the 38 permantent wells.<br><br>See comments for analysis. | None | None | The four temporary wells were not sampled and scheduled for abandonment. All Samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. Bio-parameters consisting of nitrate, sulfate, and iron (III) were also analyzed at selected deep well locations |
| June 2004 Quarterly Groundwater Sampling Report (Tetra Tech, 2004d) | September 2004 | June 2004 | None | None | None | None | None | Quarterly GW sampling event of 24 permantent wells.<br><br>See comments for analysis. | None | None | Based on Tetra Tech's letter dated May 28,2004, MDE approved a reduction in sampling 13 wells in the June 2004 monitoring event. All Samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. Bio-parameters consisting of nitrate, sulfate, and iron (III) were also analyzed at selected deep well locations |
| September 2004 Quarterly Groundwater Sampling Report (Tetra Tech, 2004e) | November 2004 | September 2004 | None | None | None | None | None | Quarterly GW sampling event of 13 permanent wells.<br><br>See comments for analysis. | None | None | MDE approved a reduction in sampling 12 wells in the September and December 2004 monitoring events. All Samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. In addition, perchlorate was added to this sampling event. |
| December 2004 Quarterly Groundwater Sampling Report (Tetra Tech, 2005a) | March 2005 | December 2004 | None | None | None | None | None | Quarterly GW sampling event of 13 permanent wells.<br><br>See comments for analysis. | None | None | MDE approved a reduction in sampling 12 wells in the September and December 2004 monitoring events. All Samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. In addition, perchlorate was added to this sampling event. |

**TABLE 2-1**

**SUMMARY OF DUMP ROAD AREA INVESTIGATIONS**
**LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND**


| Report | Report Date | Fieldwork Date | Geophysical Survey/Utility Survey | Soil Gas | Soil Borings | Test Pits | Well Installation | Groundwater | Surface Water | Sediment | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Additional Soil and Sediment Sampling Letter Report (Tetra Tech, 2005b) | July 2005 | May 2004 | A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed sampling locations were clear. | None | 12 soil samples collected. A sample was collected at 1 and 4 feet bgs from 6 soil borings.<br>Analyzed for total chromium and hexavalent chromium. | None | None | None | None | Four sediment samples were taken from Pond #1.<br>See comments for analysis. | This additional sampling was conducted to address comments reguarding hexavalent chromium concentrations in areas where elevated total chromium were detected and also to further evaluate potential environmental risks associated with sediment chemical concentrations. The sediment samples were analyzed for VOCs, SVOCs, PCBs, total metals, hexavalent chromium, and simultaneously extracted metals/acid volatile sulfides (SEM/AVS). |
| Soil and Groundwater Investigation Data Report (Tetra Tech, 2008) | June 2008 | October 2007 - February 2008 | A geophysical survey delineated the areal and vertical extent of possible landfill areas. The survey consisted of a reconnaissance- level EM survey and follow-up surficial gamma mapping survey. | None | 27 soil samples collected using MIP/DPT sampling.<br>Analyzed for VOCs. | 50 soil samples taken from 25 test pits.<br>Analyzed for VOCs, SVOCs, metals, 1,4-dioxane, and PCBs. | 35 permanent wells including 2 OW wells and 2 RW wells.<br>MW-15 through MW-26 (SID)<br>OW1 and RW1 (SI) | 23 gw samples collected using MIP/DPT sampling, and 33 samples from new and 36 samples from existing permanent wells.<br>Analyzed for VOCs, metals, and 1,4-dioxane. | None | None | Five 55-gallon drums and two 30 gallon containers, and PID readings up to 700 ppmv were discovered. |
| Groundwater Monitoring Report, August - September 2008 (Tetra Tech, 2009b) | May 2009 | August - September 2008 | None | None | None | None | None | Sampled 35 wells installed before 2007 and 34 wells installed in 2007.<br>See comments for analysis. | None | None | Samples were analyzed for VOCs, 1,4-dioxane, hexavalent chromium, and total and dissolved metals. Select samples were also analyzed for alkalinity, chemical oxygen demand (COD), total organic carbon (TOC), and pH. |
| Deep Groundwater Report (Tetra Tech, 2009c) | April 2009 | June 2008 - January 2009 | A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed well locations were clear. | None | 8 Soil samples collected. 2 Geotechnical Samples collected from each deep well boring.<br>Evaluated for soil porosity, bulk density, moisture content and total organic carbon. | None | 4 Deep Wells<br>1 Intermediate well<br>MW-27D<br>MW-28I<br>MW-29D<br>MW-30D<br>MW-31D | Groundwater samples were collected from each of the new monitoring wells.<br>Analyzed for VOCs, SVOCs, 1,4-dioxane, and metals. | None | None | The purpose of the Deep Groundwater Investigation was to determine whether VOCs detected in the surficial aquifer groundwater at the MSA have migrated vertically through clay-rich sediments to the next underlying aquifer. |

**TABLE 2-1**

**SUMMARY OF DUMP ROAD AREA INVESTIGATIONS**
**LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND**


| Report | Report Date | Fieldwork Date | Geophysical Survey/Utility Survey | Soil Gas | Soil Borings | Test Pits | Well Installation | Groundwater | Surface Water | Sediment | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Groundwater Sampling 2009 (Tetra Tech, 2009b) | January 2010 | August - September 2009 | None | None | None | None | 6 Permanent Wells<br><br>MW-32 through MW-34 (SI) | 65 new and existing wells were sampled<br><br>See comments for analysis. | None | None | Samples were analyzed for VOCs, 1,4-Dioxane, Hexavalent chromium, and total and dissolved metals. Select samples were also analyzed for TPH-DRO, TPH-GRO. |
| Remedial Investigation Report | November 23, 2010 | August - September 2009 | A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the excavation areas. | None | 72 soil samples taken from 25 soil boring locations.<br><br>Analyzed for VOCs, SVOCs, and total metals. | 28 samples taken from 27 test pits.<br><br>Analyzed for VOCs, and total metals. | None | None | None | None | Three orphan drums and one apparent 55-gallon drum were discovered during excavation. |
| Off-site Piezometer Installation and Water Level Monitoring | November 18, 2010 | May-July 2010 | A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the boring areas. | None | None | None | 9 piezometers<br><br>PZ-1S,I,D, PZ-2S,I,D | None | None | None | Two MIPs borings were advanced and nine piezometers to were installed via DPT on the Conrad's Ruth Villa and Parkside Marina properties. Groundwater levels at the piezometers and three wells at MSA were recorded every 15 minutes for one month. Surface water levels were recorded at the same interval at a tidal gaging station installed on the Parkside Marina pier. Baromteric pressure was recorded every 15 minutes at MSA. |
| Groundwater Sampling 2010 | December 10, 2010 | July 2010 | None | None | None | None | None | 65 wells were sampled<br><br>See comments for analysis. | 3 samples collected in Frog Mortar Creek | None | Groundwater and surface water samples were analyzed for VOCs, 1,4-dioxane, hexavalent chromium, perchlorate, and total and dissolved metals,a and perchlorate. Select groundwater samples were also analyzed for RDX (an explosive compound), TPH-DRO, TPH-GRO, radium-226, radium-228 and natural attenuation parameters.. |
| Groundwater Sampling 2011 | March 2012 | May to June 2011 | None | None | None | None | None | 65 wells were sampled | 6 sampling events from March to December 2011 | None | Groundwater and surface water samples were analyzed for VOCs, 1,4-dioxane, hexavalent chromium, perchlorate, and total and dissolved metals,a and perchlorate. Select groundwater samples were also analyzed for RDX (an explosive compound), TPH-DRO, TPH-GRO, radium-226, radium-228 and natural attenuation parameters.. |
| Supplemental Investigation Report | April 1, 2011 | September 2010 - January 2011 | Reconnaissance level EM survey was conducted for 21 acres from the southern boundary of the Dump Road Area to south of the Compass Rose area. | 101 passive soil gas samples set at 4 ft. bgs. 99 samples analyzed for VOCs, TPH and diesel alkanes | None | None | None | None | None | None | Topographic surveying and a wetlands assessment of the complete Dump Road Area and Compass Rose area were conducted. Slug tests (single-well permeability tests) were conducted on 16 surficial aquifer wells. |

**TABLE 2-1**

**SUMMARY OF DUMP ROAD AREA INVESTIGATIONS**
**LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND**


| Report | Report Date | Fieldwork Date | Geophysical Survey/Utility Survey | Soil Gas | Soil Borings | Test Pits | Well Installation | Groundwater | Surface Water | Sediment | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2011 Compass Rose Soil Investigation | Deecember 2011 | June 2011 | Assess subsurface conditions based on elevated geophysical survey EM readings of Anomalies A, B, C and D identified during 2010 geophysical survey. | None | None | 4 Test Pits/Excavations 4 soil samples analyzed for VOCs (8260B); SVOCs (8270D); PCBs (8082A); TPH GRO/DRO (8015B); priority pollutant metals (6010C, 7471A) | None | None | None | None | This investigation provided additional data, via surface and subsurface exploration and testing, to assess whether waste had been disposed of in the Compass Rose Area. This investigation also assessed the nature (e.g., mineral content) of soils in the area to discover whether these minerals may have contributed to geophysical survey anomalies found there. This study seeked to evaluate more definitively the geophysical survey findings of the 2010 Dump Road supplemental design investigation (Tetra Tech, 2010d), which indicated that some areas near the Compass Rose Area exhibit anomalous electromagnetic (EM) responses. |

Notes:
bgs = below ground surface
BTEX = benzene, toluene, ethylbenzene, xylenes
COD = chemical oxygen demand
DPT = direct push technology
DRO = diesel range organics
EM = electromagnetic
GPR = ground-penetrating radar
GRO = gasoline range organics
GW = groundwater
LM = limited magnetometry
MDE = Maryland Department of the Environment
MES = Maryland Environmental Services
MIP = membrane interface probe
MSA = Martin State Airport
PCBs = polychlorinated biphenyls
PID = photoionization detector
ppmv = parts per million volume
PZ = piezometer
SEM/AVS = simultaneously extracted metals/acid volatile sufide
SVOCs = semivolatile organic compounds
TCE = trichloroethene
TCLP = toxicity characteristic leaching procedure
TOC = total organic carbon
TPH = total petroleum hydrocarbon
VOCs = volatile organic compounds

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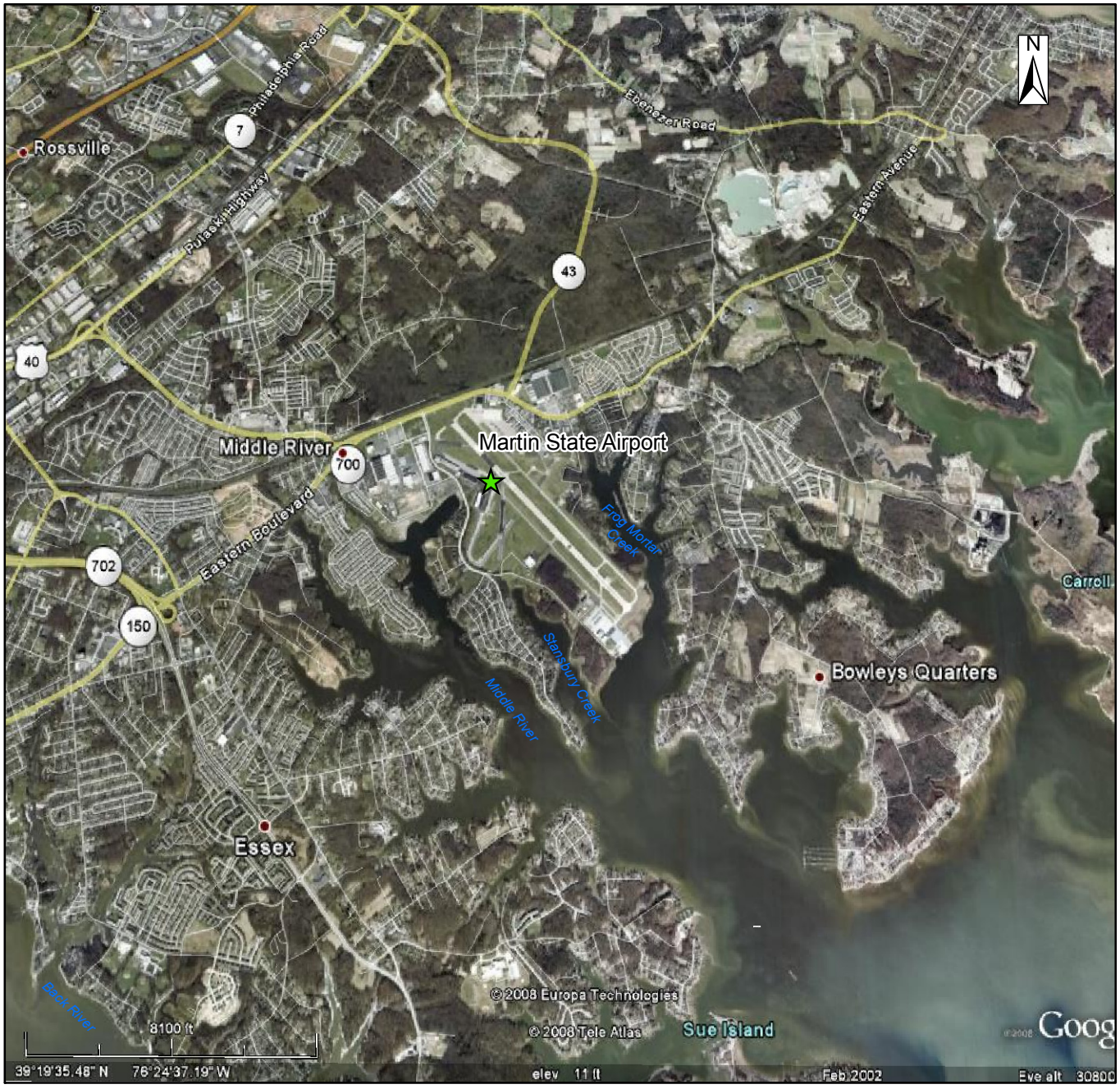
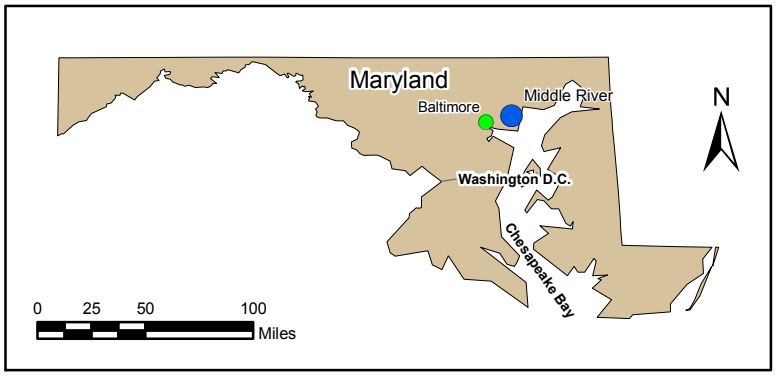



Source: Google Earth Pro, 2008




# Figure 2-1

## Martin State Airport Location Map

***Lockheed Martin, Martin State Airport***
***Middle River, Maryland***

| DATE MODIFIED: | CREATED BY: |
|---|---|
| 8/03/10 | MP |

Tetra Tech, Inc.

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MANG_Site Map_072511.mxd)
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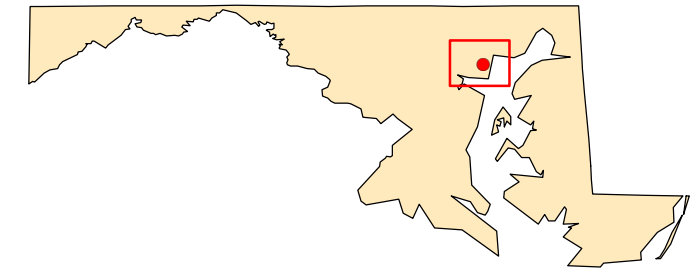


**Figure 2-2**

**Munitions Area Location Map**
**Maryland Air National Guard**

***Lockheed Martin, Martin State Airport***
***Middle River, Maryland***

| DATE MODIFIED: | CREATED BY: |
|---|---|
| 7/26/11 | MP |

Tetra Tech, Inc.

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**Figure 2-3**

**Areas of Previous Investigation**
**Dump Road, Martin State Airport**

**Legend**

- Monitoring Wells
- Pond

***Lockheed Martin Martin State Airport***
***Middle River, Maryland***

0 50 100 200 Feet

N

DATE MODIFIED: 7/25/11

CREATED BY: MP

Tetra Tech, Inc.

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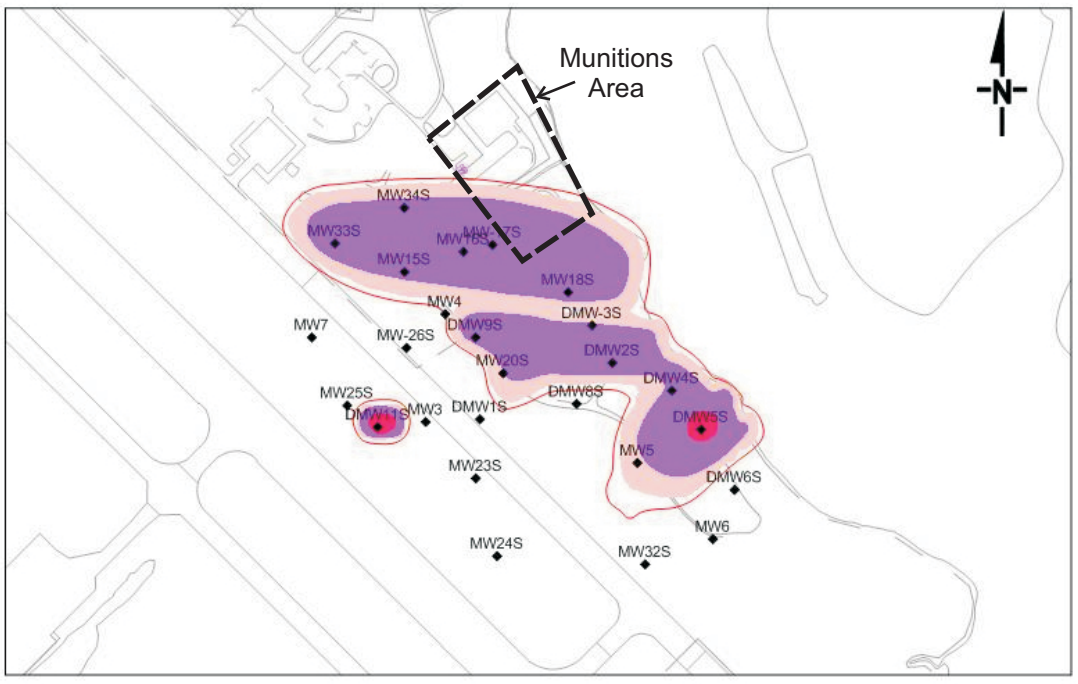
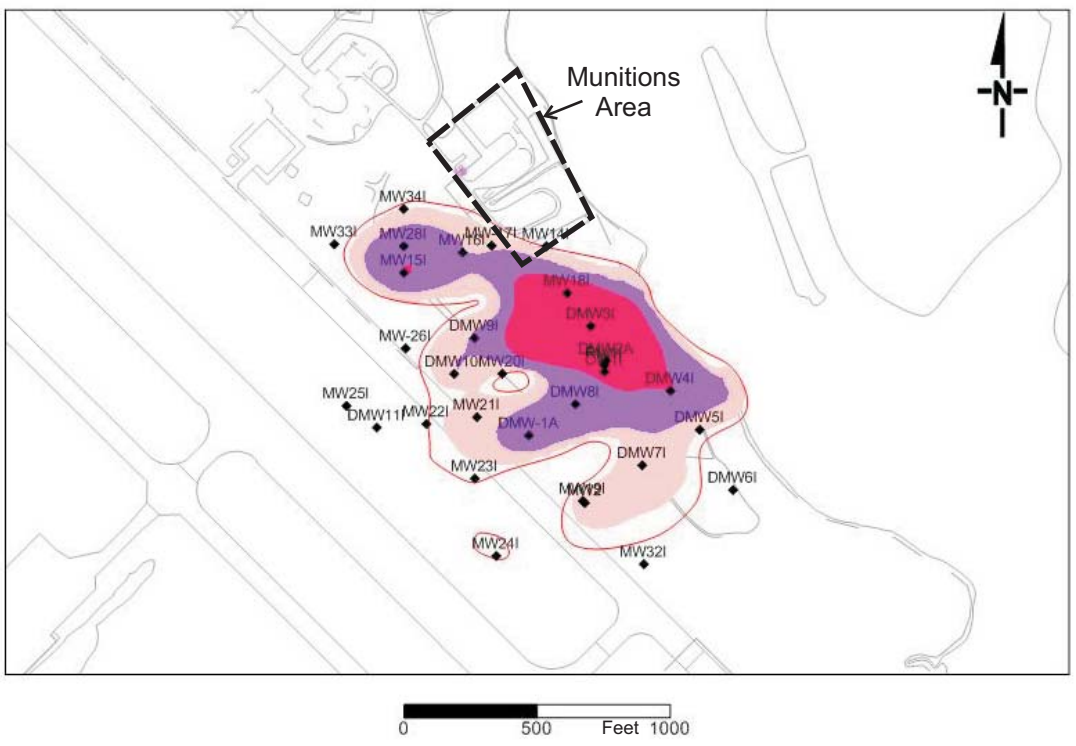
## Upper Surficial Aquifer




## Intermediate Surficial Aquifer




Concentration ug/L

5000

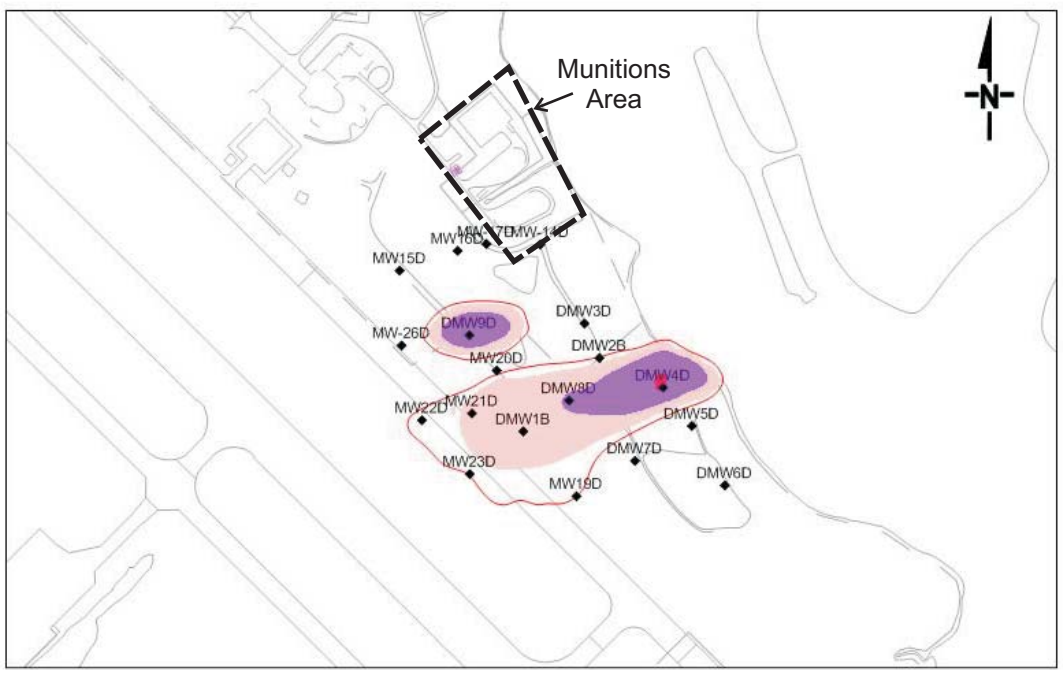
500

50

5

5 ug/L

## Lower Surficial Aquifer




Note: Contours generated by groundwater model

**Figure 2-4**

**Groundwater Plume - Trichloroethene**
**Martin State Airport**

***Lockheed Martin Martin State Airport***
***Middle River, Maryland***

N

DATE MODIFIED: 9/2/11

CREATED BY: LR

**Tetra Tech, Inc.**

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**FIGURE 2-5**

**GROUNDWATER MONITORING WELL LOCATIONS**

**LEGEND**

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL INSTALLED 1994 - 2003
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL INSTALLED 2007 - 2008
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL OR PIEZOMETER INSTALLED 2010 - 2011
- DEEP CONFINED AQUIFER WELL INSTALLED 2008
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL INSTALLED 1994 AND 2003; CURRENTLY ABANDONED
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

***Dump Road Area***
***Lockheed Martin, Martin State Airport***
***Middle River, Maryland***

0 60 120 240 Feet

N

DATE MODIFIED: 5/31/12

CREATED BY: MP

TETRA TECH

# Section 3
# Investigation Approach and Methodology

This investigation included an indoor air investigation within Maryland Air National Guard (MDANG) facilities and a soil vapor investigation in the Munitions Area to evaluate whether volatile organic compounds (VOCs) are present. The overall objectives of this investigation are presented in Section 1. Site activities for this investigation included the following:

- obtaining site access, necessary permits, and utility clearance
- active soil vapor sampling
- indoor air sampling
- reporting results

As stated in Section 1, the objectives of this investigation were to perform a soil vapor investigation of shallow subsurface soils in the Munitions Area and to monitor indoor air quality (IAQ) in the MDANG facilities. The goal was to evaluate the potential presence of VOCs in soil vapor in the Munitions Area and indoor air in the MDANG facilities. The soil vapor monitoring grid was also designed to help assess whether the northern extent of the Dump Road VOC plume extends beneath the Munitions Area.

## 3.1 FIELD METHODOLOGY

### 3.1.1 Mobilization/Demobilization

Following Lockheed Martin Corporation (Lockheed Martin) approval of the *Maryland Air National Guard Soil Vapor and Indoor Air Quality Investigation Work Plan* (Tetra Tech Inc. [Tetra Tech], 2011), Tetra Tech conducted the following mobilization/demobilization activities:

- coordination with Lockheed Martin Corporation (Lockheed Martin), Martin State Airport (MSA) Facilities and MDANG personnel
- obtained utility clearance in the proposed soil vapor boring locations using Miss Utility and a private firm as described in the following section

- mobilized subcontractors, equipment, and materials to the site
- implemented the following:
  - a site-specific health and safety plan (HASP)
  - an emergency response plan
  - a sampling and analysis plan
  - a waste management plan conforming to *Energy, Environment, Safety, and Health (EESH) Remediation Waste Management Procedure No: EROP-03, Revision 4* (effective April 17, 2009)
  - a data management plan
- arranged a decontamination area
- demobilized equipment and materials from the site (at work completion)
- performed general site cleanup and trash removal (at work completion)
- restored surfaces and repaired landscaping as necessary (at work completion)

Tetra Tech's field operations leader coordinated mobilization and demobilization of personnel and resources, including purchasing, leasing, and staging of equipment for efficient loading and transport to and from the site before and after each field activity. Before field operations began, appropriate Tetra Tech personnel reviewed the site-specific HASP and the respective Safe Work permits included in the HASP. Tetra Tech conducted mandatory daily health and safety tailgate meetings before all field events. Subcontractors present for that day's field activities were included in these meetings.

### 3.1.2 Site Access, Permits, and Utility Clearance

Tetra Tech obtained the required access and permits and completed required utility clearance activities before beginning fieldwork. Tetra Tech secured Digging Permit AF IMT 103 from the MDANG before beginning any intrusive field activities. Consultation with the Maryland Aviation Administration (MAA) determined that because the soil vapor sampling locations were away from the active runway, taxiways, and airport "critical zone," no additional permits (e.g., Airport Zoning Permit, Building Permit, Digging Authorization) through MAA would be required. A copy of Digging Permit AF IMT 103 and the utility clearance report are in Appendix A.

The following activities were performed before any soil vapor sampling was conducted:

- notified the Miss Utility underground utility location center (1-800-257-7777; www.missutility.net)
- reviewed facility/site utility maps
- conducted a permitting meeting and performed a site walk with appropriate MDANG personnel
- completed the Corporate Staff Procedure CS-28 Digging Project form and obtained the required signatures
- contacted MDANG and received approval with respect to current military air operations
- obtained an approved Digging Permit AF IMT 103 through MDANG Base Civil Engineering
- marked each soil vapor sampling location with a painted wooden stake
- contracted a private utility locating firm (Enviroscan, Inc. of Lancaster, Pennsylvania) to identify and mark any subsurface utilities/anomalies

Tetra Tech worked closely with MDANG, MSA, MAA, and their tenants to make all parties aware of the field schedule. The project team conducted a site walk to observe current operations (including active munitions operations), structures, and ground conditions, including topography, vegetation, and ground surface anomalies that could represent possible constraints on the field activities. Each soil vapor probe location was marked with a painted wooden stake and cleared for subsurface utilities before any field activities were undertaken.

In addition to calling in a Miss Utility ticket, a private utility locating service, Enviroscan, Inc. (Enviroscan), was contracted to mark any underground utilities and anomalies. Enviroscan used typical utility locating equipment representing the best available technology, including a Fisher TW-6 electromagnetic pipe and cable locator/tracer, a Radiodetection C.A.T. and Genny pipe and cable locator/tracer, a Radiodetection model RD4000 multi-frequency pipe and cable tracer, and a GSSI SIR-2000 ground penetrating radar (GPR) system. Any utilities found within a 30-foot radius of a designated investigation location were identified and marked with the corresponding color of paint on the ground. In addition, Tetra Tech also had additional areas cleared as alternate locations in the event some of the original locations were inaccessible due to standing water and difficult terrain.

All electromagnetic emitting devices (such as ground penetrating radars, terrain conductivity meters, borehole loggers, and metal detectors) met the safety requirements related to the hazards of electromagnetic (EM) radiation posed to ordnance (HERO). This certification was a requirement for any electromagnetic transmitting device operated close to explosive ordnance. All equipment used for this project was United States Army Corps of Engineers (USACE)-approved for use in unexploded ordnance investigations. Select soil vapor probe locations were offset slightly in the field as necessary to avoid subsurface utilities, based on the subsurface utility mark out.

### 3.1.3 Installation of Soil Vapor Points

Twenty-two temporary soil vapor points were located in key areas of the Munitions Area and installed using a mobile all-terrain direct push technology (DPT) drill rig and standard 1.5-inch DPT drill rods. Soil vapor sampling locations were strategically placed based on topography, site conditions, and current structures. For example, no soil vapor points were on the berms/bunkers of the Munitions Area. In addition, no soil vapor monitoring locations were within 15 feet of monitoring wells, utility trenches, or other potential conduits, as these features can act as preferential pathways for soil vapor migration.

Installation of the temporary soil vapor points complied with American Society for Testing and Materials (ASTM) methods, United States Environmental Protection Agency (USEPA) methods, and, in general, to the guidelines in *Direct Push Installation for Active Soil Vapor Sampling and Monitoring (Post-Run Tubing Method) Technical Bulletin MK 3098* (Geoprobe® Systems, May 2006). Vapor sampling points were advanced to a depth of approximately five feet below grade and adjusted appropriately, depending on the depth to groundwater. Once the drill rods were installed to the desired sampling interval, they were retracted six inches; a metal rod was then used to push out the expendable drive point and extract the stainless steel screen. Tubing fitted with an adaptor and an O-ring was inserted into the probe rods and rotated counterclockwise to engage the adapter threads with the expendable point holder.

Once the tubing was secured to the point holder, the sampling train was connected to a pump and the sampling point was purged before collecting the soil vapor sample for laboratory analysis. The locations of each soil vapor point were recorded using a handheld global positioning system (GPS) device and entered into the field documentation. Tetra Tech ensured that the sampling

points were not placed within 15 feet of any non-potable water wells, monitoring wells, utility trenches, or other conduits that could act as preferential pathways for soil vapor migration.

### 3.1.4 Active Soil Vapor Sampling

On January 19–20, 2012, Tetra Tech oversaw the sampling of 22 temporary soil vapor probes aligned in north–south transects in key areas of the Munitions Area using direct push technology (DPT). Three (SG5, SG6, and SG16) of the original 25 proposed soil vapor sampling locations were not sampled due to both the steep terrain behind the munitions bunkers and the presence of standing surface water. These points were along the southern boundary of the Munitions Area. Soil vapor sampling complied with ASTM methods, USEPA methods, and generally with the guidelines in *Direct Push Installation for Active Soil Vapor Sampling and Monitoring (Post Run Tubing Method) Technical Bulletin MK 3098* (Geoprobe® Systems, May 2006). Soil vapor sample field sheets are in Appendix B.

Shallow groundwater was expected to be encountered in the area of the proposed sampling locations due to the close proximity of a surface water body (Frog Mortar Creek [FMC]), however, only one location (SG12-011912) was sampled shallower than five feet below ground surface (bgs) due to the presence of groundwater. After pulling water during the attempted sampling for location SG12-011912 at five feet bgs, an offset boring (approximately one foot away from the original boring location) was drilled to a depth of four feet bgs where the soil vapor sample was successfully collected. Munitions Area soil vapor sampling point locations are shown in Figure 3-1.

Soil vapor samples were collected in Summa® canisters in conformance with *USEPA Method TO-15: Determination of Volatile Organic Compounds in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*. Before collecting each sample, a pump was connected to the tubing to draw the air out of the tubing, to check for moisture in the soil and to establish a continuous flow of soil vapor from beneath the ground. Following this initial purging, samples were collected at each location by attaching a certified clean one-liter Summa® canister to the Teflon® tubing and opening the valve on the canister's flow controller to allow soil vapor to be drawn into the evacuated canister.

Before sampling, the controllers were pre-calibrated by the laboratory to a specified flow rate and shipped to the field. Soil vapor samples were collected at a low flow-rate no greater than

200 milliliters per minute for 30 minutes, to avoid high negative pressure that could mobilize subsurface vapor. Soil vapor samples were submitted to an off-site laboratory (Centek Laboratories, Syracuse, New York) for VOC analysis using USEPA Method TO-15.

One soil vapor sample was collected from each of the 22 soil vapor sampling locations. No duplicate samples were collected during this investigation. All canisters were closed, secured, and shipped overnight to the laboratory for VOC analysis. Tetra Tech recorded the canister vacuum at the beginning and at the completion of sampling at each location. Canister vacuum readings are included on the soil vapor sample field sheets in Appendix B.

All Summa® canisters arrived at the laboratory safely and securely without issue. The laboratory confirmed that the canisters had been received at a requisite pressure for chemical analysis and that pressures were consistent with those measured in the field at the time of sampling. One trip blank (TB-011912) was analyzed as part of this investigation.

At the end of each field day, the DPT rig, field vehicles, and associated equipment were relocated away from airport and munitions operations to a secure location inside the main office building within the Munitions Area. After sampling, drill rods were extracted from the ground and each boring was filled to the ground surface with granular bentonite. No surface restoration was required, as all of the borings were in grassy areas.

### 3.1.5 Indoor Air Sampling

In addition to the soil vapor samples, three IAQ samples were collected five days later on January 25, 2012 inside two MDANG buildings within the Munitions Area. Potential interior sampling locations were identified during a previous site walk with MDANG personnel. Indoor air was collected over an eight-hour sampling period in conformance with USEPA Method TO-15. Samples were collected in certified clean six-liter Summa® canisters by opening the valve on the canister's flow controller to allow ambient indoor air to be drawn into the evacuated canister at the pre-set flow rate. The controllers had been pre-calibrated by the laboratory to collect an eight-hour sample before shipment to the field. Building heating, ventilation, and air conditioning (HVAC) operating and barometric conditions were noted during sampling.

The three indoor air quality sampling locations were as follows:

1. In the main office building in the northwestern portion of the secured Munitions Area. Sample IAQ1-012512 was placed in an occupied office toward the west/southwestern portion of the building. This office and building are continuously occupied during normal business hours.

2. In the main office building in the northwestern portion of the secured Munitions Area. Sample IAQ2-012512 was placed on a desk in a large conference room in the central portion of the building. This room is almost continuously occupied for training and meetings.

3. In the active munitions/maintenance annex building in the north/northeastern portion of the secured Munitions Area. Sample IAQ3-012512 was placed on top of a tool storage cabinet in the western portion of the building. This portion of the building is used to maintain munitions trailers and other equipment. Solvents, paints, and lubricants are both stored and used in this part of the building. The eastern part of the building is used for active munitions work and loading. The building is periodically occupied for maintenance and active munitions activities.

During sampling, Tetra Tech recorded the canister vacuum before and after sample collection. The canister vacuum readings are included on the soil vapor sample field sheets in Appendix B. All Summa® canisters arrived at the laboratory safely and securely without issue. The laboratory confirmed that the canisters had been received at a requisite pressure for chemical analysis and that pressures were consistent with those measured in the field at the time of sampling.

### 3.1.6 Laboratory Analysis and Data Validation

Laboratory analysis of samples included the following:

- analysis of soil vapor samples using USEPA Method TO-15
- analysis of indoor air samples using USEPA Method TO-15
- data usability review (data validation)

One trip blank (TB-01912) was analyzed for this investigation; no other quality assurance/quality control samples were collected. All samples were analyzed by a state accredited laboratory (Centek Laboratories, Syracuse, New York) for VOCs using USEPA Method TO-15. All analytical results were thoroughly checked by qualified chemists for quality and usability. All data from the laboratory were validated for all quality assurance (QA)/quality control (QC) parameters, including accuracy, precision, completeness, and comparability, in accordance with USEPA Region 3 Level M2 protocols. Results of the data usability reviews were transmitted to project personnel as they were received.

Tetra Tech closely monitored the laboratory analysis via electronic data deliverables and data validation of the samples to ensure that the analysis and reporting were generated as per the procedures prescribed in the work plan. Samples were analyzed on a standard turnaround time of 21 calendar days. Data validation reports are in Appendix C.

## 3.2 DOCUMENTATION

A master site logbook was maintained for the site as an overall record of field activities. Sample documentation consisted of chain of custody (COC) reports and matrix specific sample log sheets. The COC report is a standardized form summarizing and documenting pertinent sample information, such as sample identification and type, matrix, date and time of collection, and requested analysis. Sample custody procedures document sample acquisition and integrity. Soil vapor and indoor air sample field sheets are in Appendix B.

## 3.3 SAMPLE HANDLING

Sample handling includes field related considerations concerning the proper use of sampling equipment, allowable holding times, and analyses requested. Proper custody procedures were followed throughout all phases of sample collection and handling. COC protocols were used throughout sample handling to establish the evidentiary integrity of sample containers. These protocols were used to demonstrate that the samples were handled and transferred in a manner that would eliminate (or detect) possible tampering.

Sample containers were released under signature from the laboratory and were accepted under signature by the samplers or other individual responsible for maintaining custody until the sample containers were transferred to the samplers. Transport containers returning to the laboratory were sealed with strapping tape and a tamper proof custody seal. The custody seal contains the signature of the individual releasing the transport container, along with the date and time.

## 3.4 EQUIPMENT DECONTAMINATION

The soil vapor sampling methods used in this investigation did not require a decontamination pad. All downhole drilling equipment (including the rear of the DPT rig) and other equipment were high-pressure steam cleaned before arriving on-site. Dedicated and/or disposable equipment (i.e., tubing) was used whenever possible. Reusable equipment (i.e., samplers, DPT

drill rods) was decontaminated before and after each use in a small bucket using a phosphate-free detergent (i.e., Alconox®) and a potable water rinse.

## 3.5 WASTE MANAGEMENT

No investigation derived waste (IDW) was collected for disposal during this investigation. All personal protective equipment (i.e., gloves) and disposable sampling equipment (i.e., tubing) were placed in a trash bag and disposed of in an approved facility trash receptacle. The extremely low volume of decontamination water generated by this project allowed for the decontamination water to evaporate from the collection bucket at the site.

## 3.6 SITE RESTORATION

Site restoration was minimal following soil vapor sampling. Vehicles were parked on the asphalt and not taken into the grass. No ruts or tire marks were created as the mobile all-terrain rubber track DPT rig was maneuvered carefully to avoid disturbing any of the grassy areas. Soil vapor borings were backfilled with granular bentonite and soil was placed at the ground surface to top off each hole to match the existing surface. No borings were made in asphalt or concrete.

## 3.7 DATA MANAGEMENT

Data handling procedures followed by the laboratory met the requirements set forth in the laboratory subcontract. All analytical and field data are maintained in the project files. The project files contain copies of the COC forms, sample log forms, sampling location maps, and quality assurance documentation of data manipulation.

### 3.7.1 Data Tracking and Control

A cradle to grave sample tracking system was used from the beginning to the end of sampling. Before field mobilization, the field operations leader coordinated/initiated sample tracking. Sample labels were handwritten in the field. Labels were reviewed for adherence to work plan requirements and for accuracy. The project manager (PM) coordinated with the analytical laboratory to ensure that they were aware of the number and type of samples and analyses to anticipate.

Once sampling was underway, the field operations leader forwarded COC forms to the PM or their designee and to the laboratory on each day samples were collected. The PM or their

designee then confirmed that the COC forms provided the information required by the work plan. After completing all requested analyses, the laboratory submitted an electronic deliverable for every sample delivery group.

After successful completion of all requested analyses, the laboratory submitted an electronic deliverable for every sample delivery group (SDG). When all electronic deliverables had been received from the laboratory, the PM or their designee ensured that the laboratory had performed all the analyses requested, and had noted discrepancies early, so that all samples could be analyzed within the prescribed holding times.

### 3.7.2 Data Verification

Reducing laboratory data entails manipulating raw data instrument output into reportable results. Laboratory data were verified by the group supervisor and then by the laboratory's Quality Control/Documentation Department.

### 3.7.3 Project Data Compilation

The analytical laboratory generated an Adobe® portable document file (PDF) of the analytical data packages, as well as electronic database deliverables. The electronic database was checked against the PDF file from the laboratory and updated as required, based on data qualifier flags applied during data validation. Sampling data were incorporated into the MSA environmental geographic information system (EGIS) database. All data, such as units of measure and chemical nomenclature, were organized to assure consistency across the project database.

### 3.7.4 Geographical Information System

MSA environmental data are managed using a relational database and a geographic information system (GIS). The relational database stores chemical, geological, hydrogeologic, and other environmental data collected during environmental investigations. The GIS is built from the relational database and contains subsets of the larger data pool. The GIS allows environmental data to be posted onto base maps to represent the information graphically. Sampling, chemical, and positional data were compiled and incorporated into the MSA EGIS. The EGIS system generated various maps from the MSA data as needed, including site location maps, sampling location maps, and contaminant tag maps.

### 3.7.5 Data Validation

Data validation involves a party independent of the analytical laboratory reviewing the analytical data to ensure that specific criteria have been met. These criteria are concerned with specifications that are not sample dependent; they specify performance requirements that should be fully under a laboratory's control. For organic data analyses, specific validation areas include blanks, performance evaluation standard materials, and instrument performance checks. Data validation (consisting of data completeness, holding time, calibrations, laboratory and field blank contamination, field duplicate precision, and detection limits) was completed concurrent with the data evaluation. Data from this sampling event consisted of soil vapor and indoor air samples intended to better delineate the nature and extent of possible subsurface soil VOC-impacts at the Munitions area of the MDANG property.

Following the investigation, chemical data were validated in accordance with established USEPA protocols to assess data reliability and accuracy. This review was based on the USEPA Region 3 *Modifications to the National Functional Guidelines for Data Review* (USEPA, Region III, 1993 and 1994) and the specifics of the analytical method employed. Data validation reports that include complete COC forms are in Appendix C.

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**FIGURE 3-1**

**SOIL GAS AND INDOOR AIR SAMPLE LOCATIONS MUNITIONS AREA, MDANG**

**LEGEND**

- INDOOR AIR SAMPLE LOCATION
- SOIL GAS SAMPLE LOCATION
- NOT SAMPLED
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

***Lockheed Martin Martin State Airport***
***Middle River, Maryland***

0 25 50 100 Feet

N

DATE MODIFIED: 3/23/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Soil Gas_Munitions Area MANG_revised 3 23 12.mxd)
3/23/2012 -- 10:29:33 AM

# Section 4
# Results

The following section presents the results of the soil vapor and indoor air quality (IAQ) investigation of the Munitions Area of the Maryland Air National Guard (MDANG) installation at Martin State Airport (MSA) in Baltimore County, Maryland. The investigation evaluated possible volatile organic compounds (VOCs) in soil vapor and indoor air. The project established and sampled a soil vapor monitoring grid that included north–south transects of sampling locations in the Munitions Area (to help assess whether the northern extent of the Dump Road Area [DRA] plume of volatile organic compounds extends beneath the Munitions Area) and which sampled indoor air inside Munitions Area buildings.

Analytical results of IAQ samples for all compounds except trichloroethene (TCE) and perchloroethene (PCE) were compared to screening levels for industrial air set forth in the United States Environmental Protection Agency's (USEPA) *Regional Screening Levels for Chemical Contaminants at Superfund Sites* (USEPA, 2011a). The lowest of the carcinogenic (*ca*) or noncarcinogenic (*nc*) values for each contaminant of concern were used for the screening. Carcinogenic risk was evaluated at the $1\times10^{-5}$ (one in 100,000) risk level, in accordance with Maryland Department of the Environment (MDE) requirements.

In September 2011, USEPA updated its toxicological review for TCE and, as part of this document, new toxicity criteria were published on USEPA's *Integrated Risk Information System* (IRIS) electronic database. The new USEPA toxicity criterion for TCE results in a screening value of 8.8 micorgrams per cubic meter ($\mu g/m^3$) for industrial air (USEPA, 2011b). This value is the lowest of the carcinogenic/noncarcinogenic values for TCE, and is based on noncarcinogenic effects. This value was used to screen the IAQ results in anticipation of Maryland Department of the Environment (MDE) adoption of the updated USEPA guidance.

In February 2012, USEPA updated its toxicological review for PCE and, as part of this document, new toxicity criteria were published on USEPA's IRIS database. The new USEPA toxicity criterion for PCE results in a screening value of 175 $\mu g/m^3$ for industrial air

(USEPA, 2012). This value is the lowest of the carcinogenic/noncarcinogenic values for PCE, and is based on noncarcinogenic effects. This value was used to screen the IAQ results in anticipation of MDE adopting the updated USEPA guidance.

Soil vapor sampling results were compared to screening values derived in accordance with methods discussed in Appendix D of USEPA's guidance for evaluating vapor intrusion (USEPA, 2002). Soil vapor screening values were calculated by dividing the indoor air screening levels referenced above by a conservative attenuation factor of 0.1 (methodology obtained from USEPA 2002). The attenuation factor represents the factor by which subsurface vapor concentrations migrating into indoor air spaces are reduced due to diffusive, advective, and/or other attenuating mechanisms. Simply stated, the attenuation factor is the ratio of the indoor air concentration of a constituent to its subsurface vapor concentration under a conservative vapor intrusion scenario.

## 4.1 ACTIVE SOIL VAPOR SAMPLING RESULTS

Twenty-two soil vapor samples were collected and chemically analyzed for VOCs by USEPA Method TO-15 (Figure 4-1). Table 4-1 summarizes the analytes detected in soil vapor samples. Tables of active soil vapor sampling results and statistics are in Appendix D. Comparing these results with soil vapor screening values indicates the following:

- chloroform was detected in soil vapor sample SG1-012012 at 350 µg/$m^3$, which exceeds the screening criterion of 53 µg/$m^3$; however, it does not appear to be associated with the VOC plume south of the Munitions Area.
- no other samples exceeded applicable soil vapor screening values.

## 4.2 INDOOR AIR QUALITY SAMPLING RESULTS

Three indoor air quality samples were collected and chemically analyzed for volatile organic compounds by USEPA Method TO-15 (Figure 4-2). Table 4-2 summarizes positive detects for indoor air. A table of indoor air sampling results and statistics are in Appendix D. Comparing these results with the indoor air screening values indicates the following:

- naphthalene was detected in samples IAQ1-012512 and IAQ3-012512 at concentrations of 5.1 µg/$m^3$ and 6.9 µg/$m^3$, respectively, which exceed the industrial air screening level of 3.6 µg/$m^3$.
- no other samples exceeded applicable indoor air screening values.

**Table 4-1**

**Maryland Air National Guard Munitions Area**
**Summary of Positive Detects for Soil Vapor**
**Lockheed Martin, Martin State Airport, Middle River, Maryland**


| SAMPLE ID:<br>LABORATORY ID:<br>SAMPLE DATE:<br>LOCATION: | Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$) | KEY | SG1-012012<br>C1201051-015A<br>1/20/2012<br>SG1 | SG2-012012<br>C1201051-013A<br>1/20/2012<br>SG2 | SG3-012012<br>C1201051-014A<br>1/20/2012<br>SG3 | SG4-012012<br>C1201051-017A<br>1/20/2012<br>SG4 | SG07-012012<br>C1201051-022A<br>1/20/2012<br>SG07 |
|---|---|---|---|---|---|---|---|
| **VOLATILES($\mu g/m^3$)** | | | | | | | |
| 1,2,4-TRIMETHYLBENZENE | 310 | nc | 31 K | 16 K | 14 | 9.9 | 17 K |
| 1,2-DICHLOROETHANE | 47 | ca | -- | -- | -- | -- | -- |
| 2-BUTANONE | NA | NA | 470 K | 72 K | 38 | 61 K | 22 K |
| BENZENE | 160 | ca | 39 | 27 | 18 | 22 | 24 |
| CARBON DISULFIDE | 31,000 | nc | 13 | 14 | 15 | -- | 4 |
| CHLOROFORM | 53 | ca | 350 | -- | -- | -- | -- |
| CHLOROMETHANE | 3,900 | nc | -- | -- | 0.55 L | -- | -- |
| CIS-1,2-DICHLOROETHENE | NA | NA | -- | -- | -- | 3.7 | 4.1 |
| DICHLORODIFLUOROMETHANE | 4,400 | nc | 1.8 | 2.1 | 1.8 | 0.9 | 2 |
| ETHYLBENZENE | 490 | ca | 8.8 | 6.8 | 5.2 K | 4.9 | 4.2 |
| METHYLENE CHLORIDE | 26,000 | ca | 0.46 J | 0.46 J | -- | -- | 0.71 K |
| NAPHTHALENE | 36 | ca | 5.6 L | 5.6 L | 4.5 J | -- | 5.6 L |
| TOTAL XYLENES | 4,400 | nc | 54 K | 27.7 K | 24.3 K | 24.4 | 23 |
| TETRACHLOROETHENE | 1,750 | ca | -- | -- | -- | -- | -- |
| TOLUENE | 220,000 | nc | 76 | 51 | 32 | 36 | 41 |
| TRICHLOROETHENE | 88 [M] | ca | -- | -- | -- | 1.3 | -- |
| VINYL CHLORIDE | 280 | ca | -- | -- | -- | 2.8 | 77 |

**Table 4-1**

**Maryland Air National Guard Munitions Area**
**Summary of Positive Detects for Soil Vapor**
**Lockheed Martin, Martin State Airport, Middle River, Maryland**


| SAMPLE ID:<br>LABORATORY ID:<br>SAMPLE DATE:<br>LOCATION: | Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$) | KEY | SG08-012012<br>C1201051-018A<br>1/20/2012<br>SG08 | SG09-012012<br>C1201051-012A<br>1/20/2012<br>SG09 | SG10-011912<br>C1201051-002A<br>1/19/2012<br>SG10 | SG11-011912<br>C1201051-001A<br>1/19/2012<br>SG11 | SG12-011912<br>C1201051-003A<br>1/19/2012<br>SG12 |
|---|---|---|---|---|---|---|---|
| **VOLATILES($\mu g/m^3$)** | | | | | | | |
| 1,2,4-TRIMETHYLBENZENE | 310 | nc | 32 K | 8.5 K | 11 | 11 | 15 |
| 1,2-DICHLOROETHANE | 47 | ca | -- | -- | -- | -- | -- |
| 2-BUTANONE | NA | NA | 51 K | 51 K | 8.7 J | 5.4 | 18 |
| BENZENE | 160 | ca | 21 | 24 | 2.5 | 2.7 | 4.6 |
| CARBON DISULFIDE | 31,000 | nc | 4.9 | 7.3 | 0.79 | 1.2 | 1.8 |
| CHLOROFORM | 53 | ca | -- | -- | -- | -- | -- |
| CHLOROMETHANE | 3,900 | nc | -- | -- | 0.78 L | 0.73 L | -- |
| CIS-1,2-DICHLOROETHENE | NA | NA | 0.6 | -- | -- | -- | -- |
| DICHLORODIFLUOROMETHANE | 4,400 | nc | 2.2 | 2.1 | 2.6 | 2.1 | 2.1 |
| ETHYLBENZENE | 490 | ca | 5.8 | 4.4 | 3.4 | 3.7 | 4 |
| METHYLENE CHLORIDE | 26,000 | ca | 0.74 K | 0.64 K | 0.46 J | -- | 0.6 K |
| NAPHTHALENE | 36 | ca | 11 L | 2.8 L | 3.6 L | 2.7 L | 3 L |
| TOTAL XYLENES | 4,400 | nc | 39 K | 21.7 | 16.9 | 19 | 20.5 |
| TETRACHLOROETHENE | 1,750 | ca | 1.8 | -- | -- | -- | -- |
| TOLUENE | 220,000 | nc | 32 | 22 | 26 | 16 | 22 |
| TRICHLOROETHENE | 88 [M] | ca | -- | -- | -- | -- | -- |
| VINYL CHLORIDE | 280 | ca | -- | -- | -- | -- | -- |

**Table 4-1**

**Maryland Air National Guard Munitions Area**
**Summary of Positive Detects for Soil Vapor**
**Lockheed Martin, Martin State Airport, Middle River, Maryland**


| SAMPLE ID:<br>LABORATORY ID:<br>SAMPLE DATE:<br>LOCATION: | Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$) | KEY | SG13-012012<br>C1201051-011A<br>1/20/2012<br>SG13 | SG14-012012<br>C1201051-019A<br>1/20/2012<br>SG14 | SG15-012012<br>C1201051-021A<br>1/20/2012<br>SG15 | SG17-012012<br>C1201051-020A<br>1/20/2012<br>SG17 | SG18-011912<br>C1201051-009A<br>1/19/2012<br>SG18 |
|---|---|---|---|---|---|---|---|
| **VOLATILES($\mu g/m^3$)** | | | | | | | |
| 1,2,4-TRIMETHYLBENZENE | 310 | nc | 19 K | 25 K | 30 K | 25 K | 23 K |
| 1,2-DICHLOROETHANE | 47 | ca | -- | -- | -- | -- | -- |
| 2-BUTANONE | NA | NA | 220 K | 55 K | 110 K | 130 K | 400 K |
| BENZENE | 160 | ca | 11 | 10 | 14 | 22 | 10 |
| CARBON DISULFIDE | 31,000 | nc | 4.1 | 2.1 | 5.3 | -- | 13 |
| CHLOROFORM | 53 | ca | -- | -- | -- | -- | -- |
| CHLOROMETHANE | 3,900 | nc | -- | -- | -- | -- | -- |
| CIS-1,2-DICHLOROETHENE | NA | NA | -- | -- | -- | -- | -- |
| DICHLORODIFLUOROMETHANE | 4,400 | nc | 2 | 2.1 | 2 | 1.8 | 2.1 |
| ETHYLBENZENE | 490 | ca | 4.9 | 5.3 | 4.9 | 4.9 | 4.6 |
| METHYLENE CHLORIDE | 26,000 | ca | -- | 2.6 K | 0.42 J | 0.71 K | 0.67 K |
| NAPHTHALENE | 36 | ca | 4.7 L | 11 L | 7.2 L | 3.9 L | 4.4 L |
| TOTAL XYLENES | 4,400 | nc | 25.4 | 29 K | 31 K | 33 K | 27 K |
| TETRACHLOROETHENE | 1,750 | ca | -- | -- | -- | -- | -- |
| TOLUENE | 220,000 | nc | 33 | 22 | 28 | 34 | 23 |
| TRICHLOROETHENE | 88 [M] | ca | -- | 0.66 | -- | -- | -- |
| VINYL CHLORIDE | 280 | ca | -- | -- | -- | -- | -- |

**Table 4-1**

**Maryland Air National Guard Munitions Area**
**Summary of Positive Detects for Soil Vapor**
**Lockheed Martin, Martin State Airport, Middle River, Maryland**


| SAMPLE ID:<br>LABORATORY ID:<br>SAMPLE DATE:<br>LOCATION: | Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$) | KEY | SG19-012012<br>C1201051-010A<br>1/20/2012<br>SG19 | SG20-011912<br>C1201051-004A<br>1/19/2012<br>SG20 | SG21-011912<br>C1201051-005A<br>1/19/2012<br>SG21 | SG22-012012<br>C1201051-016A<br>1/20/2012<br>SG22 | SG23-011912<br>C1201051-006A<br>1/19/2012<br>SG23 |
|---|---|---|---|---|---|---|---|
| **VOLATILES($\mu g/m^3$)** | | | | | | | |
| 1,2,4-TRIMETHYLBENZENE | 310 | nc | 22 K | 18 | 27 | 26 K | 25 |
| 1,2-DICHLOROETHANE | 47 | ca | -- | -- | -- | -- | -- |
| 2-BUTANONE | NA | NA | 240 K | 11 | 57 | 270 K | 30 |
| BENZENE | 160 | ca | 24 | 4.5 | 6.3 | 39 | 4.1 |
| CARBON DISULFIDE | 31,000 | nc | 27 | 2 | 3.9 | 33 | 1.8 |
| CHLOROFORM | 53 | ca | -- | -- | -- | -- | -- |
| CHLOROMETHANE | 3,900 | nc | -- | -- | -- | 0.67 L | -- |
| CIS-1,2-DICHLOROETHENE | NA | NA | -- | -- | -- | -- | -- |
| DICHLORODIFLUOROMETHANE | 4,400 | nc | 1.8 | 1.7 | 2.1 | 61 | 1.8 |
| ETHYLBENZENE | 490 | ca | 4.2 | 5.1 | 5.1 | 6.9 | 4.8 |
| METHYLENE CHLORIDE | 26,000 | ca | 1.3 K | 0.39 J | 0.39 J | 0.49 J | 0.46 J |
| NAPHTHALENE | 36 | ca | 3.5 L | 6 L | 7.9 L | 7.7 L | 11 L |
| TOTAL XYLENES | 4,400 | nc | 22.2 | 25.2 | 26.4 | 46 K | 27 |
| TETRACHLOROETHENE | 1,750 | ca | -- | -- | -- | -- | -- |
| TOLUENE | 220,000 | nc | 36 | 29 | 35 | 60 | 22 |
| TRICHLOROETHENE | 88 [M] | ca | -- | -- | -- | -- | -- |
| VINYL CHLORIDE | 280 | ca | -- | -- | -- | -- | -- |

**Table 4-1**

**Maryland Air National Guard Munitions Area**
**Summary of Positive Detects for Soil Vapor**
**Lockheed Martin, Martin State Airport, Middle River, Maryland**


| SAMPLE ID:<br>LABORATORY ID:<br>SAMPLE DATE:<br>LOCATION: | Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$) | KEY | SG24-011912<br>C1201051-007A<br>1/19/2012<br>SG24 | SG25-011912<br>C1201051-008A<br>1/19/2012<br>SG25 |
|---|---|---|---|---|
| **VOLATILES($\mu g/m^3$)** | | | | |
| 1,2,4-TRIMETHYLBENZENE | 310 | nc | 19 K | 2.4 |
| 1,2-DICHLOROETHANE | 47 | ca | -- | 0.7 |
| 2-BUTANONE | NA | NA | 40 K | 22 K |
| BENZENE | 160 | ca | 10 | 1.4 |
| CARBON DISULFIDE | 31,000 | nc | 1.3 | 0.6 |
| CHLOROFORM | 53 | ca | -- | 0.5 J |
| CHLOROMETHANE | 3,900 | nc | -- | -- |
| CIS-1,2-DICHLOROETHENE | NA | NA | -- | -- |
| DICHLORODIFLUOROMETHANE | 4,400 | nc | 2 | 2.3 |
| ETHYLBENZENE | 490 | ca | 6.9 | 2.3 |
| METHYLENE CHLORIDE | 26,000 | ca | 0.56 K | 5.7 K |
| NAPHTHALENE | 36 | ca | 3.9 L | 1 L |
| TOTAL XYLENES | 4,400 | nc | 36 K | 7 |
| TETRACHLOROETHENE | 1,750 | ca | -- | -- |
| TOLUENE | 220,000 | nc | 34 | 270 |
| TRICHLOROETHENE | 88 [M] | ca | -- | -- |
| VINYL CHLORIDE | 280 | ca | -- | -- |

**Table 4-2**

**Maryland Air National Guard Munitions Area**
**Summary of Postive Detects for Indoor Air**
**Lockheed Martin, Martin State Airport, Middle River, Maryland**

| SAMPLE ID:<br>LABORATORY ID:<br>SAMPLE DATE:<br>LOCATION: | Industrial Air Screening Level ($\mu g/m^3$) | KEY | IA1-012512<br>C1201063-001A<br>1/25/2012<br>IA1 | IA2-012512<br>C1201063-002A<br>1/25/2012<br>IA2 | IA3-012512<br>C1201063-003A<br>1/25/2012<br>IA3 |
|---|---|---|---|---|---|
| **VOLATILES(UG/M3)** | | | | | |
| 1,2,4-TRIMETHYLBENZENE | 31 | nc | 1.6 | 1 | 1.8 |
| 2-BUTANONE | NA | NA | 26 K | 4.3 | 3 |
| BENZENE | 16 | ca | 1.3 | 1.3 | 1.3 |
| CHLOROFORM | 5.3 | ca | 0.65 J | 0.6 J | -- |
| CHLOROMETHANE | 390 | nc | -- | 0.97 L | 0.73 L |
| DICHLORODIFLUOROMETHANE | 440 | nc | 2.3 | 2.4 | -- |
| ETHYLBENZENE | 49 | ca | 0.75 | 0.71 | 0.84 |
| METHYLENE CHLORIDE | 2,600 | nc | 0.99 K | 0.46 J | -- |
| NAPHTHALENE | 3.6 | ca | 5.1 L | 2.1 L | 6.9 L |
| TOTAL XYLENES | 440 | nc | 2.61 | 2.32 | 6 |
| TOLUENE | 22,000 | nc | 3.5 | 3.2 | 3.1 |

Notes: All sample concentrations in micrograms per cubic meter ($\mu g/m^3$)

Shaded cells indicate a concentration greater than the risk -based screening level

IA = indoor air

- = not detected

J = estimated value

K = result biased high

L = result biased low

NA = not available

nc = screening value based on noncarcinogenic hazard index = 1

ca = screening value based on $1x\ 10^{-5}$ carcinogenic risk

M = Maryland Department of the Environment's screening level for trichloroethene

Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites Nov-2011


**FIGURE 4-1**

**SOIL GAS EXCEEDANCES**
**MUNITIONS AREA, MDANG**

**LEGEND**

- SOIL GAS SAMPLE LOCATION
- NOT SAMPLED
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

***Lockheed Martin Martin State Airport***
***Middle River, Maryland***

0 25 50 100 Feet

N

DATE MODIFIED: 3/23/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Munitions Area Mang Soil Gas Exceedances 3 23 12.mxd)
3/23/2012 -- 10:30:39 AM

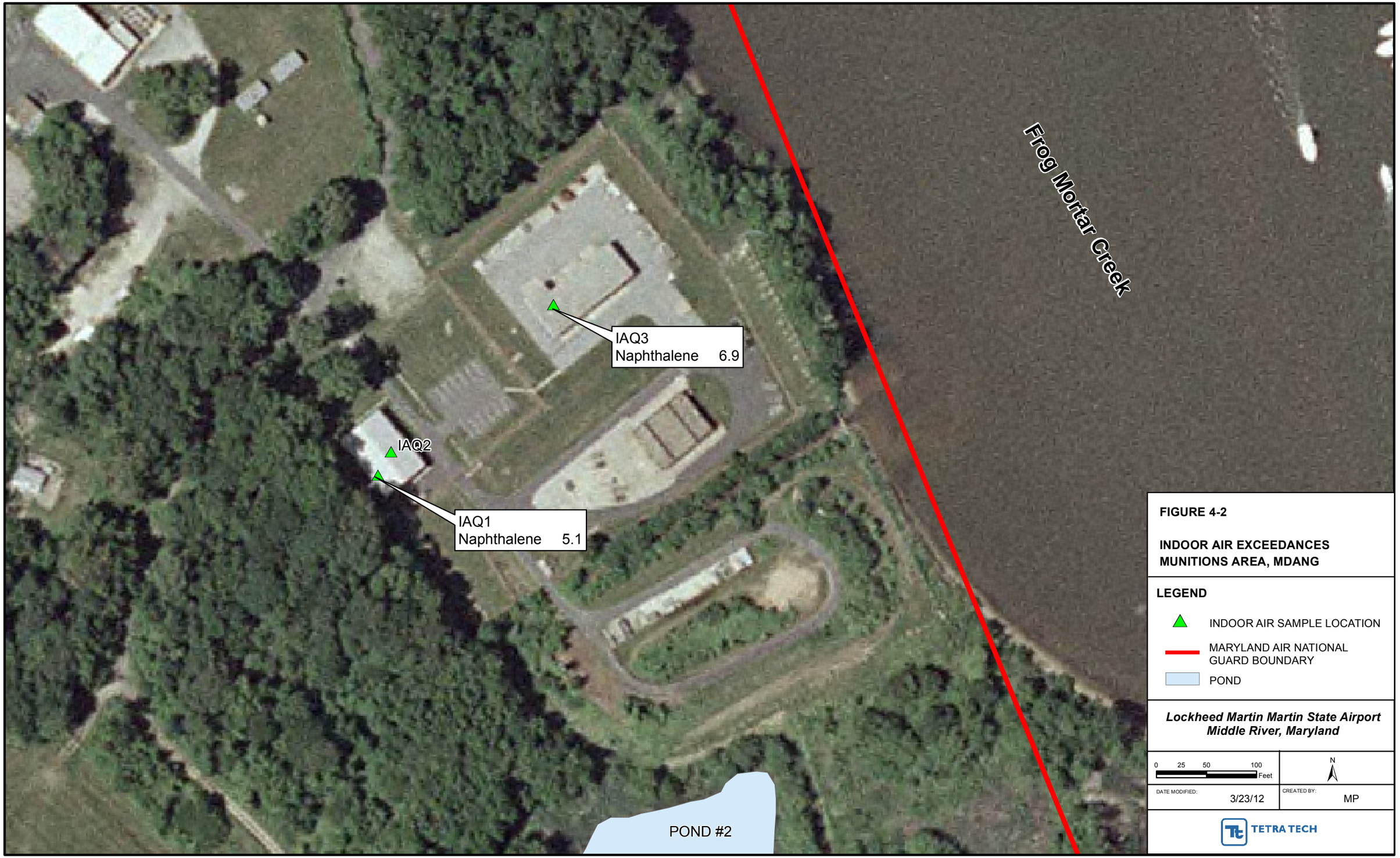


**FIGURE 4-2**

**INDOOR AIR EXCEEDANCES**
**MUNITIONS AREA, MDANG**

**LEGEND**

- INDOOR AIR SAMPLE LOCATION
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

***Lockheed Martin Martin State Airport***
***Middle River, Maryland***

0 25 50 100 Feet

N

DATE MODIFIED: 3/23/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Munitions Area Mang Indoor Air Exceedances 3 23 12.mxd)
3/23/2012 -- 10:46:15 AM

# Section 5
# Summary and Recommendations

## 5.1 SUMMARY

On January 19–20, 2012, Tetra Tech oversaw sampling of 22 temporary soil vapor probes aligned in north–south transects in key areas of the Munitions Area using direct push technology (DPT). Three locations (SG5, SG6, and SG16) of the original proposed 25 soil vapor sampling locations were not sampled due both to the steep terrain behind the munitions bunkers and the presence of standing surface water. In addition to the soil vapor samples, three indoor air quality (IAQ) samples were collected on January 25, 2012 inside two Maryland Air National Guard (MDANG) buildings in the Munitions Area. Potential interior sampling locations were identified during a previous site walk with MDANG personnel. The three indoor air sampling locations include an office, a conference room, and inside a maintenance building in the MDANG Munitions Area.

Here is a summary of the soil vapor and indoor air quality sampling:

- utility clearances were obtained from Miss Utility and through use of a private utility locating firm
- obtained Digging Permit AF IMT 103 for intrusive investigations from MDANG
- installed 22 temporary soil vapor probes in key areas of the Munitions Area using direct push technology to a depth of approximately five feet below grade, adjusted appropriately depending on the depth to groundwater
- collected 22 soil vapor samples (one sample per temporary vapor sampling point) to characterize volatile organic compounds in the shallow subsurface soil of the Munitions Area
- collected three indoor air quality samples from inside MDANG buildings in the Munitions Area using Summa® canisters over an eight hour sampling period, in conformance with United States Environmental Protection Agency (USEPA) Method TO-15

- analyzed soil vapor and indoor air samples for volatile organic compounds (VOCs) using USEPA Method TO-15 and conducted chemical data validation on all soil vapor and indoor air quality samples

- compared the analytical results to risk-based screening values to evaluate the potential for sub-slab vapor intrusion

## 5.2 FINDINGS AND RECOMMENDATIONS

The results of the soil vapor and indoor air quality investigation at the Munitions Area of the MDANG installation at Martin State Airport did not identify any regulatorily unacceptable human health risks posed to site workers by exposure to volatile organic compounds detected in soil vapor. Naphthalene did exceed its indoor air screening level at two locations, with concentrations of 5.1 $\mu g/m^3$ and 6.9 $\mu g/m^3$. In the absence of a USEPA promulgated risk-based concentration for naphthalene, the default screening level for naphthalene is USEPA's Regional Screening Level, a value used to interpret the indoor air quality and sub-slab vapor results. The default value of 3.6 $\mu g/m^3$ corresponds to a carcinogenic endpoint at the $1x10^{-5}$ risk level. This value was developed by the California Environmental Protection Agency, the only state that has developed an inhalation-unit risk value for naphthalene. EPA typically evaluates potential carcinogenic risks from the $1x10^{-4}$ to $1x10^{-6}$ level which for naphthalene would mean a concentration range of 36 $\mu g/m^3$ to 0.36 $\mu g/m^3$. As the concentrations detected fall within this range, unacceptable risks are not anticipated for site personnel.

Chloroform was detected in soil gas above the screening criterion at Munitions Area location SG1 only. Investigations at the Dump Road Area detected chloroform only in samples collected in the lower surficial aquifer, at monitoring wells DMW-9 and DMW-11 (Tetra Tech, 2012). DMW-9 is close to Pond 1, more than 400 feet southwest of the Munitions Area, and DMW-11 is more than 900 feet southwest of the Munitions Area, at the MSA runway (Figure 2-5). Both of these locations are up and slightly side-gradient of the Munitions Area. SG1 in the Munitions Area is more side-gradient than downgradient of DMW-9 and DMW-11. Thick clay layers located at monitoring wells along the southern perimeter (40-56 feet below grade in MW-14) and western perimeter (10-37 and 50-67 feet below grade in MW-17) of the Munitions Area should help attenuate any vertical vapor migration (Tetra Tech, 2010). Consequently, the chloroform detection at the Munitions Area does not appear to be associated with the larger Dump Road contaminant plume.

The results of the Dump Road investigation indicate low levels of trichloroethene, dichloroethene, and vinyl chloride in the shallow monitoring wells nearest the Munitions Area, with somewhat higher concentrations in the intermediate wells. Recent groundwater source area evaluations indicate a possible large area of trichloroethene (concentrations ≥10,000 µg/L) in the area of wells MW-18, DMW-3, and DMW-2, leading back toward Pond 2, and to the south of the Munitions Area. The Munitions Area is side-gradient of these locations (Tetra Tech, 2012).

Although a hydraulic connection could possibly exist between the intermediate aspects of MW-18 and the upper surficial aquifer zone at MW-14 on the southern boundary of the Munitions Area, thick clay between the intermediate and shallow depths probably mitigates vertical flow between these levels. In addition, MW-14 is hydraulically side-gradient to MW-18I and therefore would not be expected to affect the area of MW-14 (Tetra Tech, 2010). Dump Road Area wells MW-15, MW-16, MW-17, MW-28, MW-33 and MW-34 are most directly hydraulically upgradient of the Munitions Area. These wells yield groundwater concentrations of TCE between 500 and 5,000 µg/L, however, soil gas samples from the Munitions Area, directly downgradient of these wells, show no TCE, DCE, or VC above their respective screening criteria.

As such, it is concluded that the trichloroethene (TCE) plume in the upper surficial aquifer along the southern portion of the Munitions Area has not led to elevated soil vapor or indoor air quality concentrations that would threaten human health. Groundwater concentrations in this area will continue to be monitored through the annual groundwater monitoring program. The results of the chemical analyses of the soil vapor and indoor air quality samples support our recommendation that no additional assessment of this area for vapor intrusion parameters is necessary.

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# Section 6
# References


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# APPENDIX A— PERMITS, MISS UTILITY CLEARANCE, AND UTILITY CLEARANCE REPORT

# Final Report
# Geophysical Survey
# Utility/Structure Clearance for 25 Proposed Boring Locations
# Martin State Airport Maryland Air National Guard
# Munitions Storage Area
# Middle River, MD
# Enviroscan Project Number 101133

**Prepared For: Tetra Tech NUS, Inc**
**Prepared By: Enviroscan, Inc.**
**December 7, 2011**

1051 Columbia Avenue ● Lancaster, PA 17603 ● 717.396.8922 ● Fax 717.396.8746 ● email@enviroscan.com ● www.enviroscan.com

ENVIROSCAN, INC.

December 7, 2011

Mr. Dev Murali
**Tetra Tech NUS, Inc.**
20251 Century Boulevard
Suite 200
Germantown, MD 20874-7114

**RE:** Geophysical Survey
Utility/Structure Clearance for 25 Proposed Boring Locations
Martin State Airport Maryland Air National Guard
Munitions Storage Area
Middle River, MD
Enviroscan Project Number 101133

Dear Mr. Murali:

Pursuant to the specifications of our proposal, dated October 25, 2011, Enviroscan, Inc. conducted a multi-technique geophysical survey at the above-referenced site November 8 and 9, 2011. The purpose of the survey was to perform utility clearance for 25 proposed soil borings.

## Methods

The utility survey was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology, including:

- a Radiodetection RD8000 Multi-Frequency pipe and cable tracer;
- a Radiodetection C.A.T. and Genny pipe and cable locator/tracer;
- a Fisher TW-6 electromagnetic (EM) pipe and cable locator/tracer;
- a GSSI SIR-2000 ground penetrating radar (GPR) system.

The principles of these techniques are detailed below.

## RD8000

Utility tracing was conducted using a Radiodetection RD8000 digital cable and pipe tracer. The transmitter can be directly coupled to exposed portions of a metallic pipe, cable, or wire or indirectly (inductively) to a subsurface metallic utility of known location/orientation. The transmitter remains stationary and energizes the metallic utility at a frequency selected by the operator (512 Hz, 8 kHz, 33 kHz, or 65 kHz), which is received at the ground surface by the digital locator. When the transmitter is directly coupled to the metallic utility, the digital receiver can also calculate the depth of the utility to an accuracy of ±10% of the actual depth of the utility. Please note the close proximity to bends in the traced line or poor signal strength can result in erroneous depth estimations.

## C.A.T. and Genny

The survey areas were also scanned with a Radiodetection C.A.T. and Genny pipe and cable locator and tracer. In Power mode, the C.A.T. detects the 50 to 60 Hertz (Hz) electromagnetic field generated by live power cables and other metallic utilities to which a live line is grounded. In Radio mode, the C.A.T. detects buried conductors (cables or metallic pipes) as they conduct and re-transmit commercial broadcast radio energy. In Genny mode, the C.A.T. detects signal generated by the Genny transmitter. The Genny transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility with known location and orientation.

## TW-6

In order to detect unknown utilities, Enviroscan employed a Fisher TW-6 pipe and cable locator and tracer. In pipe and cable search mode, the TW-6 is essentially a deep-sensing metal detector that detects any highly electrically conductive materials (e.g. metals) by creating an electromagnetic field with a transmitting coil. A receiving coil at a fixed separation from the transmitter measures the field strength. As the instrument is swept along the ground surface, subsurface metallic bodies distort the transmitted field. The change in field strength/orientation is sensed by the receiver, setting off an audible alarm and/or causing deflection of an analog meter. The TW-6 can nominally detect a 2-inch metal pipe to a depth of 8 feet and a 10-inch metal pipe to a depth of 14 feet.

In pipe and cable tracing mode, the TW-6 transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility with known location and orientation. The transmitter remains stationary and energizes or excites the metallic utility to be traced with an 81.92-kilohertz signal that can be traced at the ground surface using the mobile TW-6 receiver wand or probe.

**GPR**

GPR systems produce cross-sectional images of subsurface features and layers by continuously emitting pulses of radar-frequency energy from a scanning antenna as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are displayed on a video monitor as a continuous cross section in real time. Since the electrical properties of metal are distinctly different from soil and backfill materials, metallic pipes and other structures commonly produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra-cotta pipes and structures also produce recognizable, but less dramatic reflections. Scanning was performed using a GSSI SIR-2000 GPR controller with an internal hard drive and a color display, and both a high-frequency, high-resolution 500 megaHertz (MHz) antenna or transducer, and a lower frequency deep-penetrating 200 MHz transducer.

## Results Summary

The utility clearance survey results are depicted in Figure 1 and the enclosed field notes, Appendix A. Several boring locations were moved (less than 20 feet) to avoid obstructions. These new locations are noted in Table 1. During the course of the survey, the client requested that Enviroscan clear several alternate locations for some of the borings. These alternate locations are noted on the map as purple triangles. Please note that the new coordinates of boring locations moved during geoprobing (by others) to avoid marked utilities or obstructions to drilling do not appear on Table 1.

## Limitations

The above-referenced geophysical survey was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions. In particular, please note the following specific limitations and recommendations:

- Enviroscan's field markings should be considered accurate to within approximately +/-18 inches for single lines. In contrast, since electromagnetic tracing of duct banks provides only a centerline, the bank itself may extend for 2 to 3 feet beyond the marked trace.

- The completion of this survey does not relieve any party of applicable legal obligations to notify the appropriate One-Call center prior to digging or drilling.

As always, we appreciate this opportunity to have worked with you. If you have any questions, please do not hesitate to contact me.

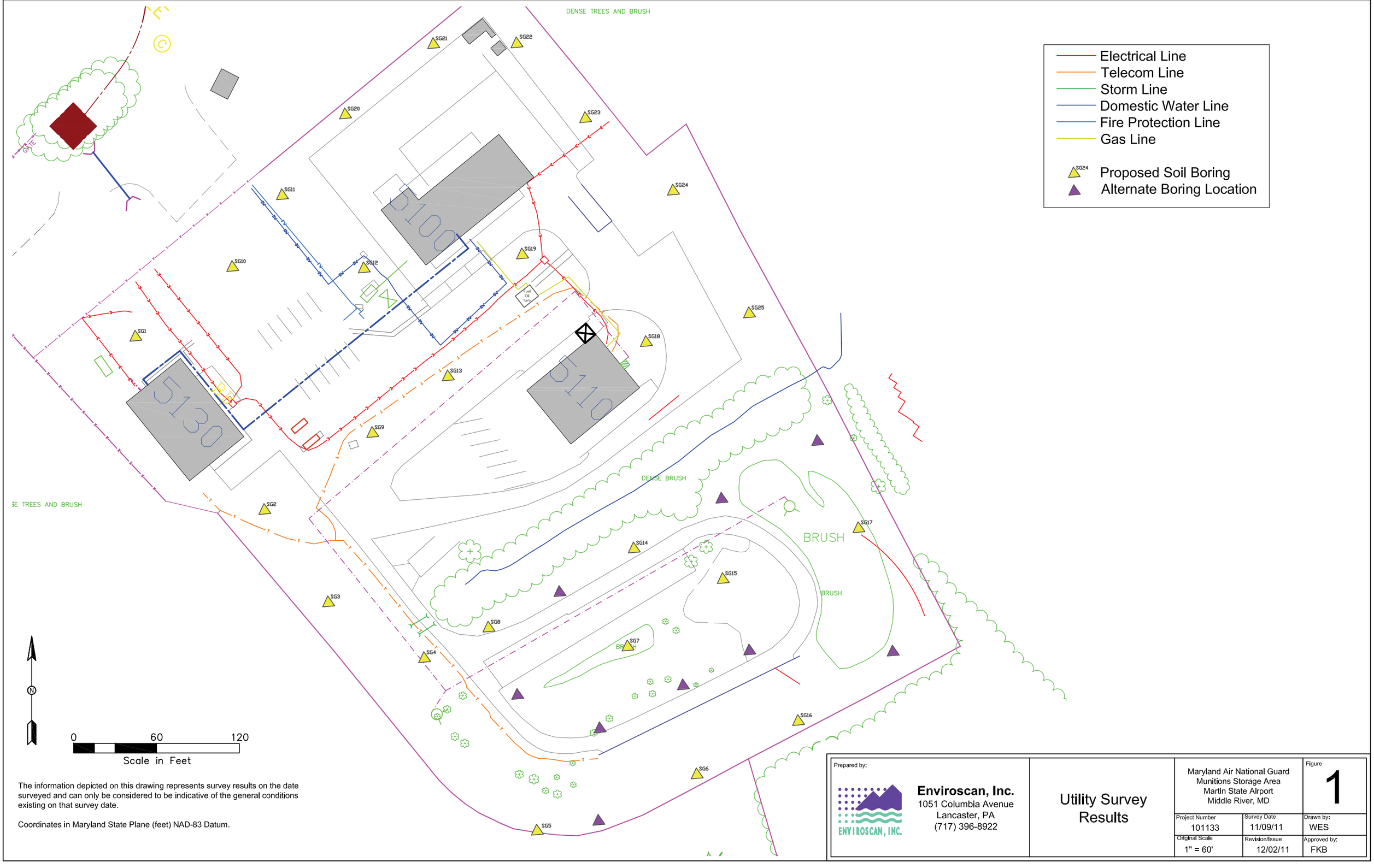
Sincerely,
**Enviroscan, Inc.**

William E. Steinhart III, M.Sc., P.G.
Principal Geophysicist

Technical Review By:
**Enviroscan, Inc.**

Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: Figure 1: Utility Survey Results
Table 1: Utility Clearance Results
Appendix A: Field Notes




The information depicted on this drawing represents survey results on the date surveyed and can only be considered to be indicative of the general conditions existing on that survey date.

Coordinates in Maryland State Plane (feet) NAD-83 Datum.

Prepared by:

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# Utility Survey Results

Maryland Air National Guard
Munitions Storage Area
Martin State Airport
Middle River, MD

Figure **1**

| Project Number | Survey Date | Drawn by: |
|---|---|---|
| 101133 | 11/09/11 | WES |
| Original Scale | Revision/Issue | Approved by: |
| 1" = 60' | 12/02/11 | FKB |

# Table 1
# Utility Clearance Results

| Boring ID | Final Easting | Final Northing |
|---|---|---|
| SB_1 | 1479122.748 | 605458.618 |
| SB_2 | 1479216.239 | 605333.015 |
| SB_3 | 1479262.468 | 605266.038 |
| SB_4 | 1479332.04 | 605225.61 |
| SB_5 | 1479413.783 | 605100.502 |
| SB_6 | 1479529.575 | 605141.305 |
| SB_7 | 1479479.439 | 605234.044 |
| SB_8 | 1479378.617 | 605247.742 |
| SB_9 | 1479294.451 | 605388.824 |
| SB_10 | 1479192.957 | 605509.186 |
| SB_11 | 1479229 | 605561.248 |
| SB_12 | 1479288.296 | 605508.166 |
| SB_13 | 1479349.185 | 605429.885 |
| SB_14 | 1479483.955 | 605305.085 |
| SB_15 | 1479548.474 | 605282.917 |
| SB_16 | 1479603.053 | 605179.983 |
| SB_17 | 1479646.821 | 605319.797 |
| SB_18 | 1479492.77 | 605454.765 |
| SB_19 | 1479403 | 605518.298 |
| SB_20 | 1479274.714 | 605619.83 |
| SB_21 | 1479338.616 | 605670.793 |
| SB_22 | 1479399.427 | 605672.024 |
| SB_23 | 1479448.769 | 605617.114 |
| SB_24 | 1479512.389 | 605564.545 |
| SB_25 | 1479567.517 | 605475.569 |

# Appendix A

## Field Notes

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG1 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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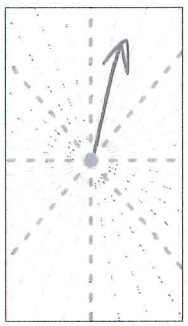
| | | |
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |



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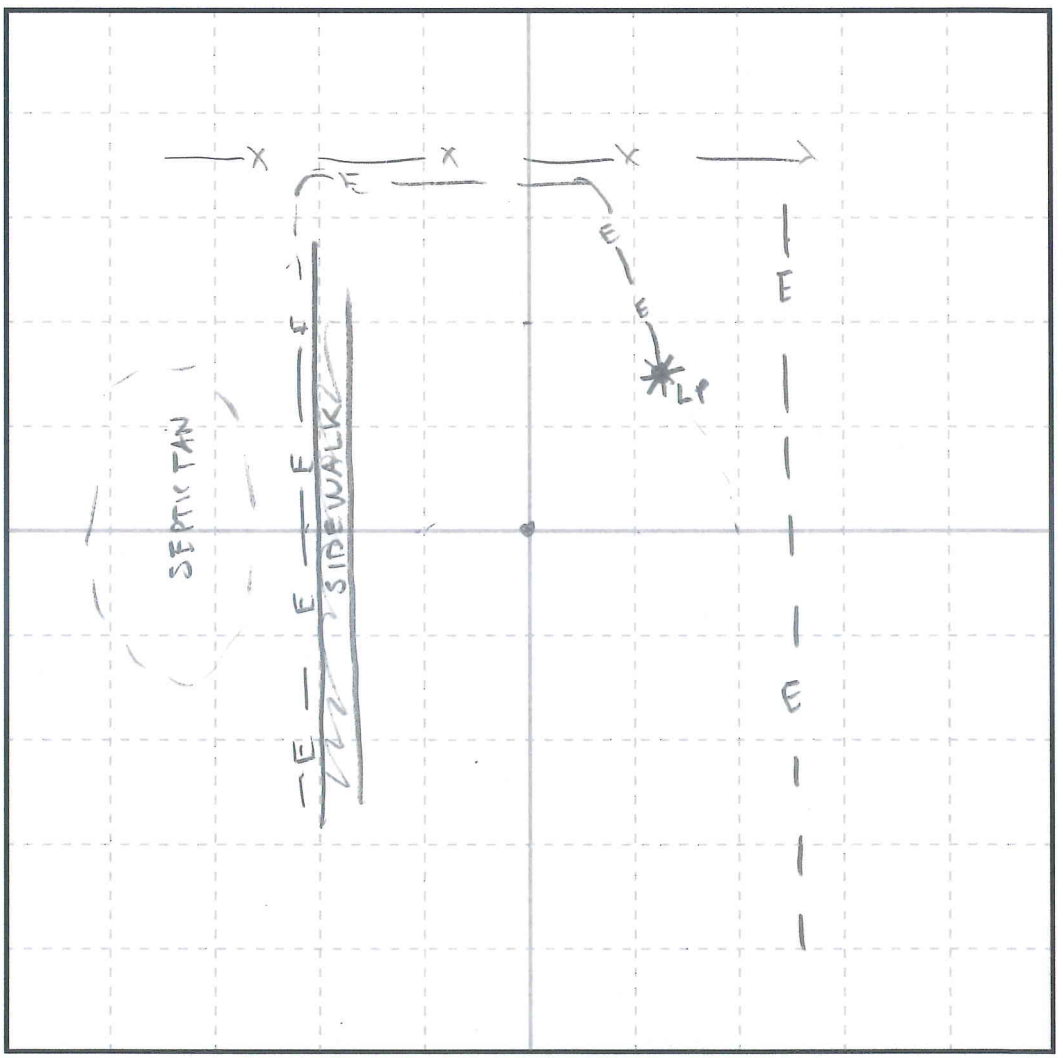


Scale 1 Block = 10 ft

Notes: 2 Elect - CAT(P)

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** S62 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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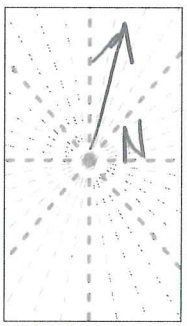
| | | |
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: 400 | Approx. Depth: — |
| | Range: 40ns | File No.: — |
| TW-6: | Setting: 7 | |
| C.A.T.: | Setting: (P) R G | Color: |
| FX-3/Schonstedt: | Setting: — | |
| Active Line Trace: | RD4000/RD8000/TW-6 — | |

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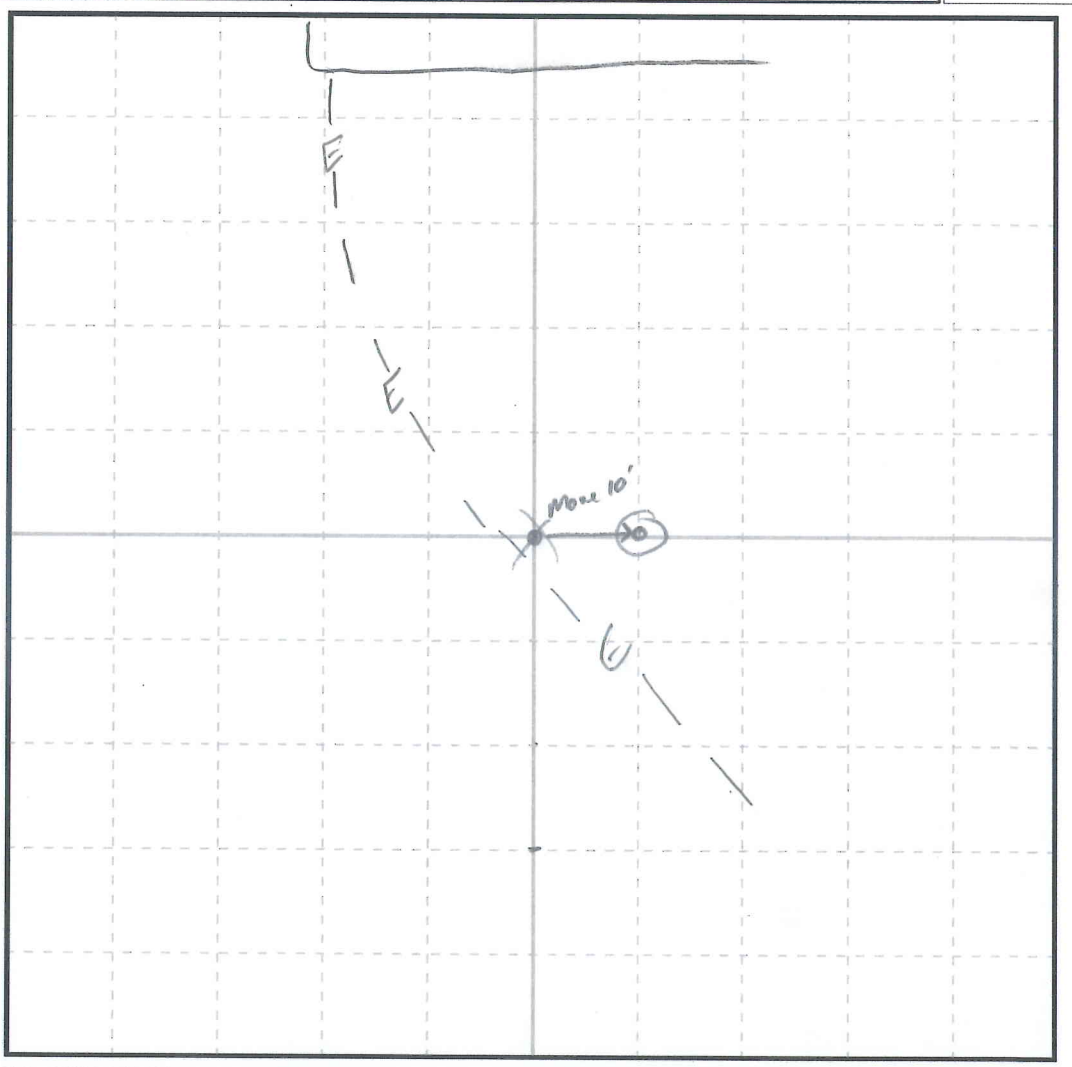


Scale 1 Block = 10 ft

Notes: 1 CAT Power line detected

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG4 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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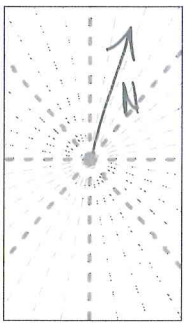
| | | |
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: 400 | Approx. Depth: |
| | Range: 40 | File No.: |
| TW-6: | Setting: 7 | |
| C.A.T.: | Setting: (P) R G | Color: |
| FX-3/Schonstedt: | Setting: — | |
| Active Line Trace: | RD4000/RD8000/TW-6 — | |

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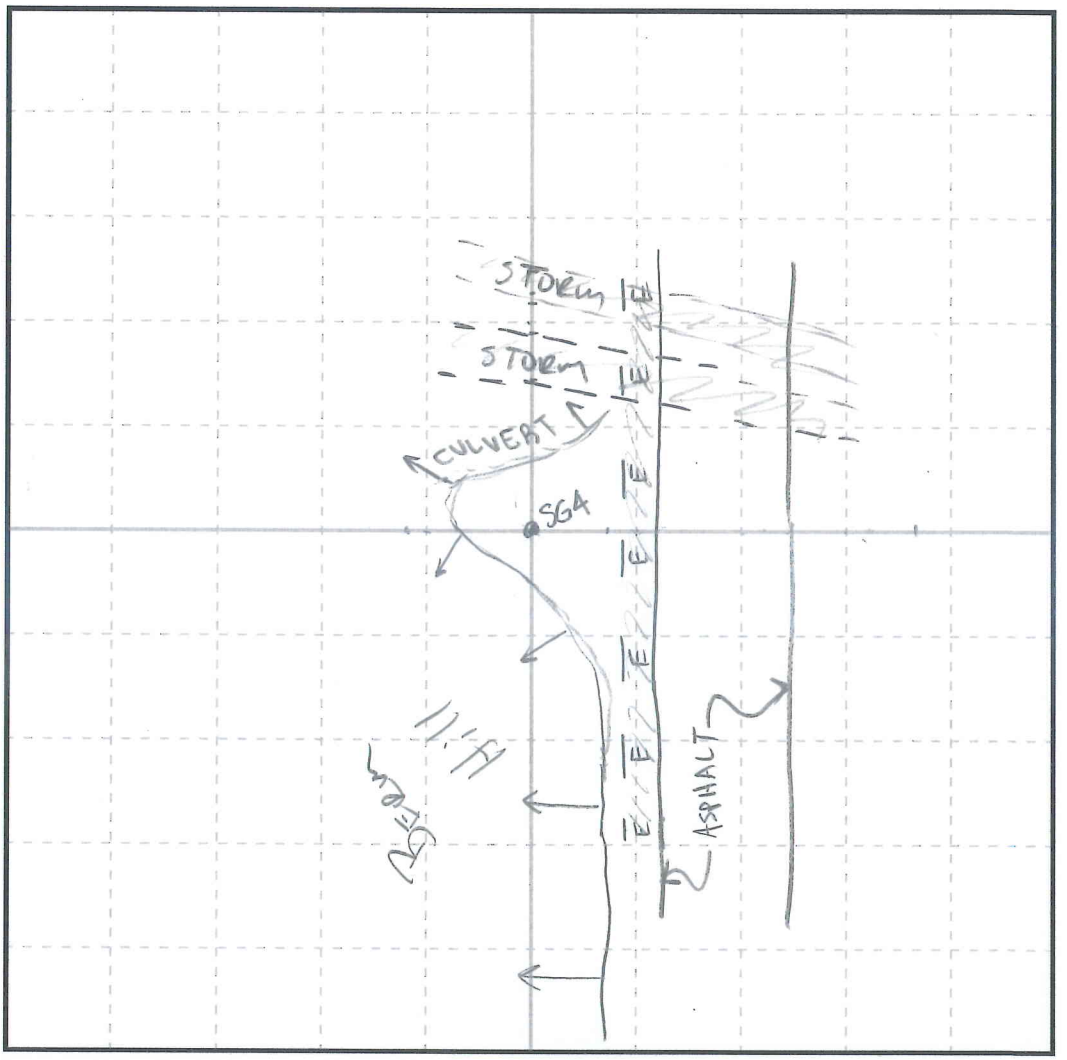


Scale 1 Block = 10 ft

Notes:
- 1 CAT (P/R) Signal
- 2 STORM PIPES Observed

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** ALT 3, 4, & 5 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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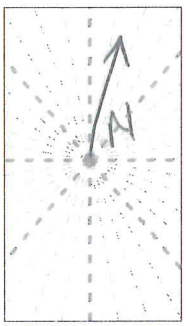
| | | |
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: ~~~~ | Approx. Depth: ~~~~ |
| | Range: | File No.: |
| TW-6: | Setting: 7 | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: ~~~~ | |
| Active Line Trace: | RD4000/RD8000/TW-6 ~~~~ | |

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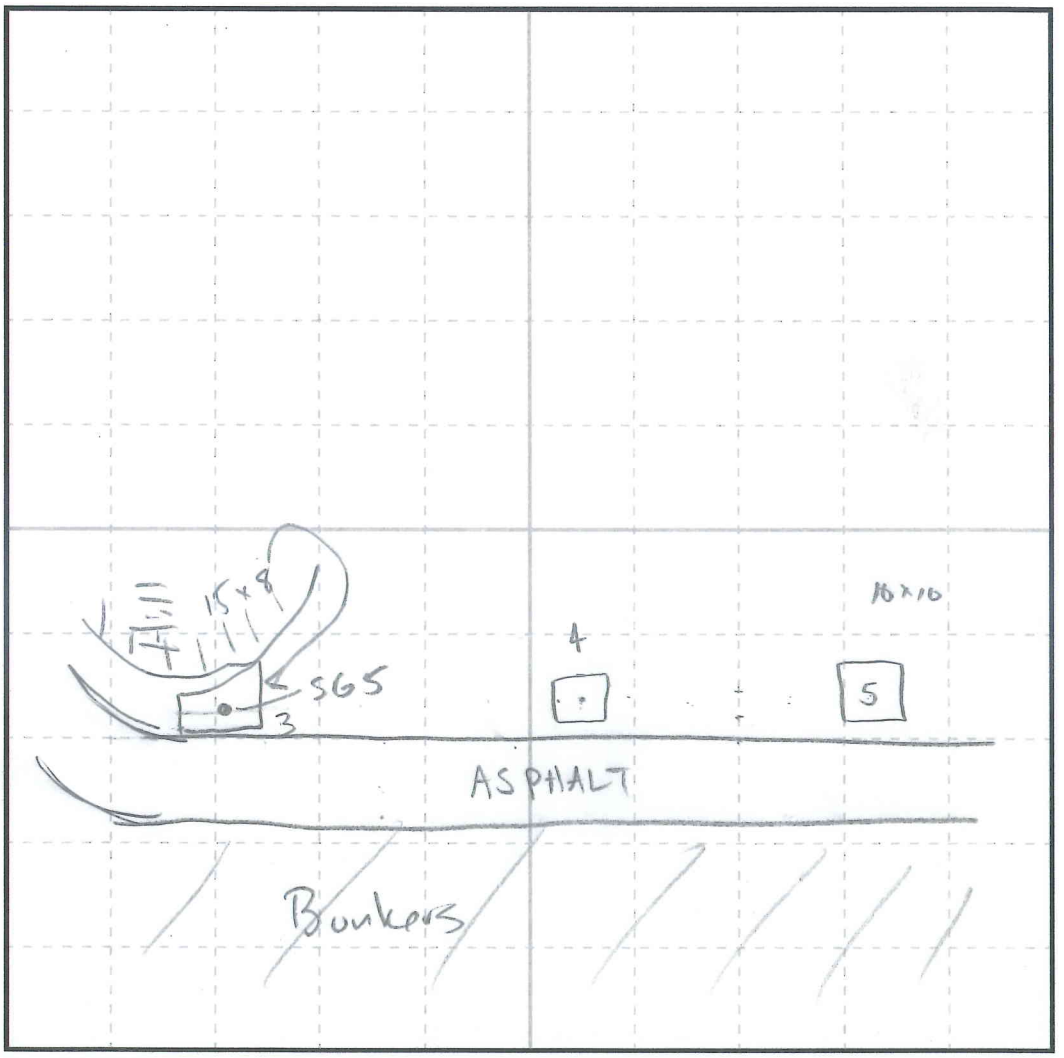


Scale 1 Block = 20 ft

Notes:

- ALT 5 10x10 corners flagged in pink
- ALT 4 6x6 " " "
- ALT 3 15x8 " " "

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG6 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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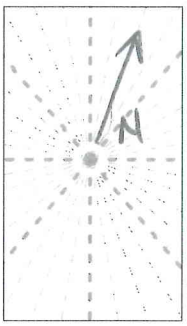
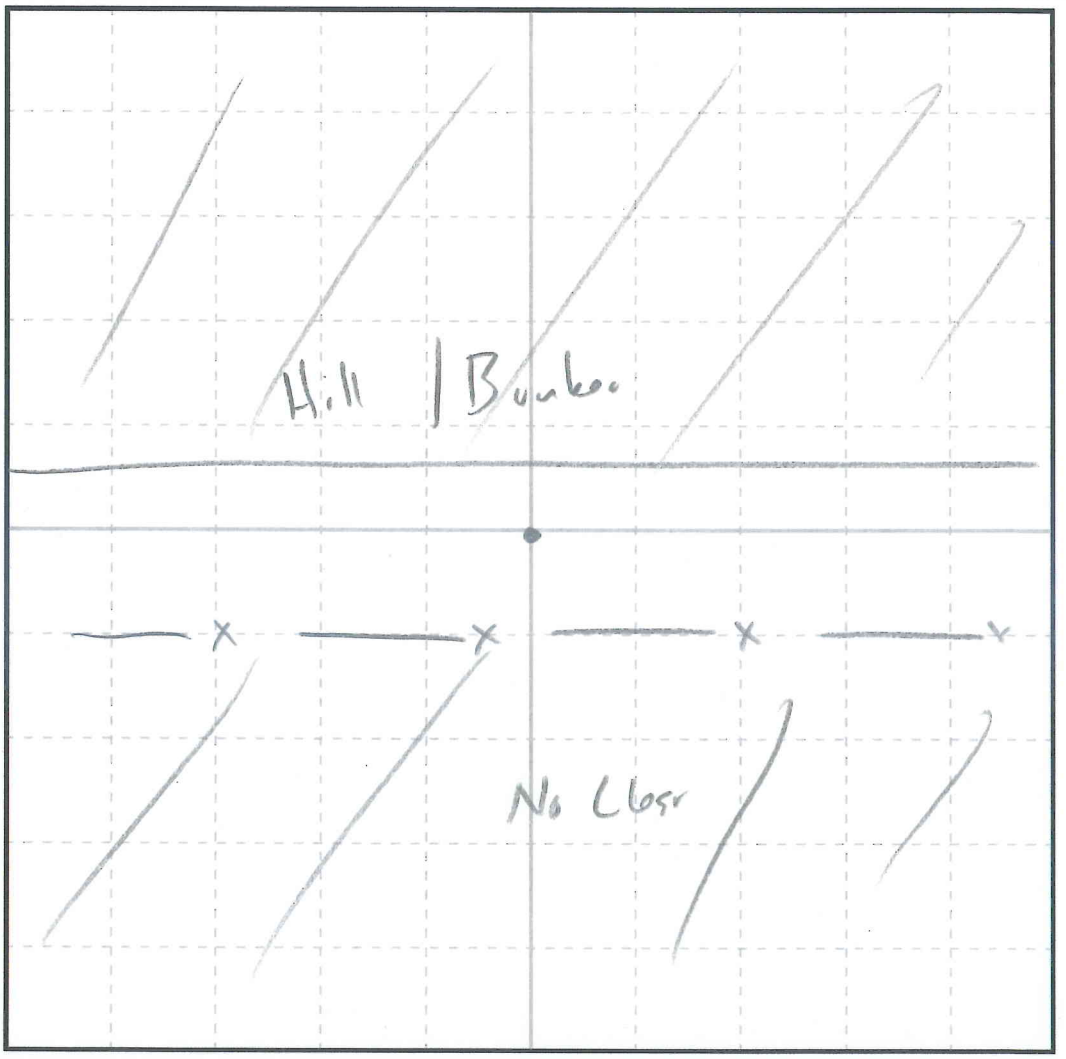
| | | |
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |




North



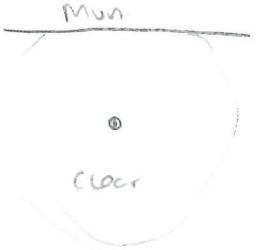

Scale 1 Block = 10 ft

Notes:
- Area clear 30' s/w of stake
- NO GPR – terrain

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

Alt 2 b/w munitions storage & Hill
15 x 10 area flagged pink in corners
area clear

SG17 clear 30' – munitions storage to North not clear




SG15 clear 30'

ALT 6 10 x 15 b/w cultvard & Hill clear

ALT 7 10X 10 clear → within flags
ALT 8 10X 10 clear
ALT 9 10X 10 clear

SG .5 4' radius circle clear @ stake

SG 10 clear 30'

SG .25 clear 30' & up to fence on East side

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG-11 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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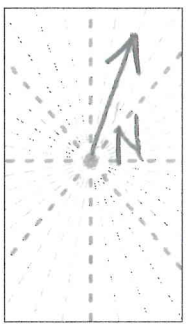
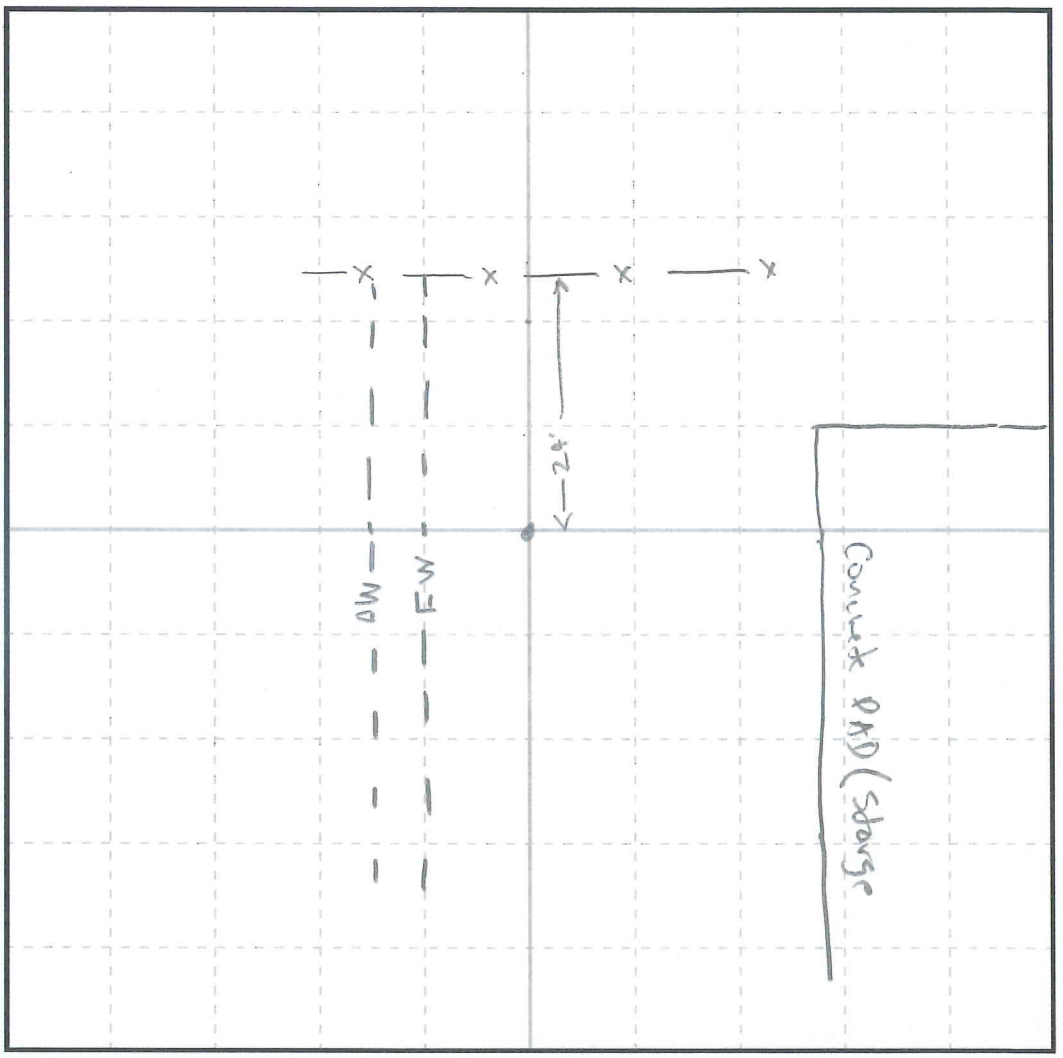
| | | |
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: 400 | Approx. Depth: |
| | Range: 40 | File No.: |
| TW-6: | Setting: 7 | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |




North




Scale 1 Block = 10 ft

Notes:

DW - CAT (P)
FW - RD 8000

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG12 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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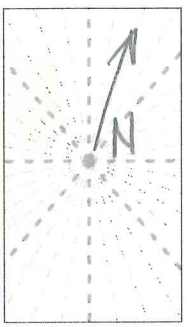
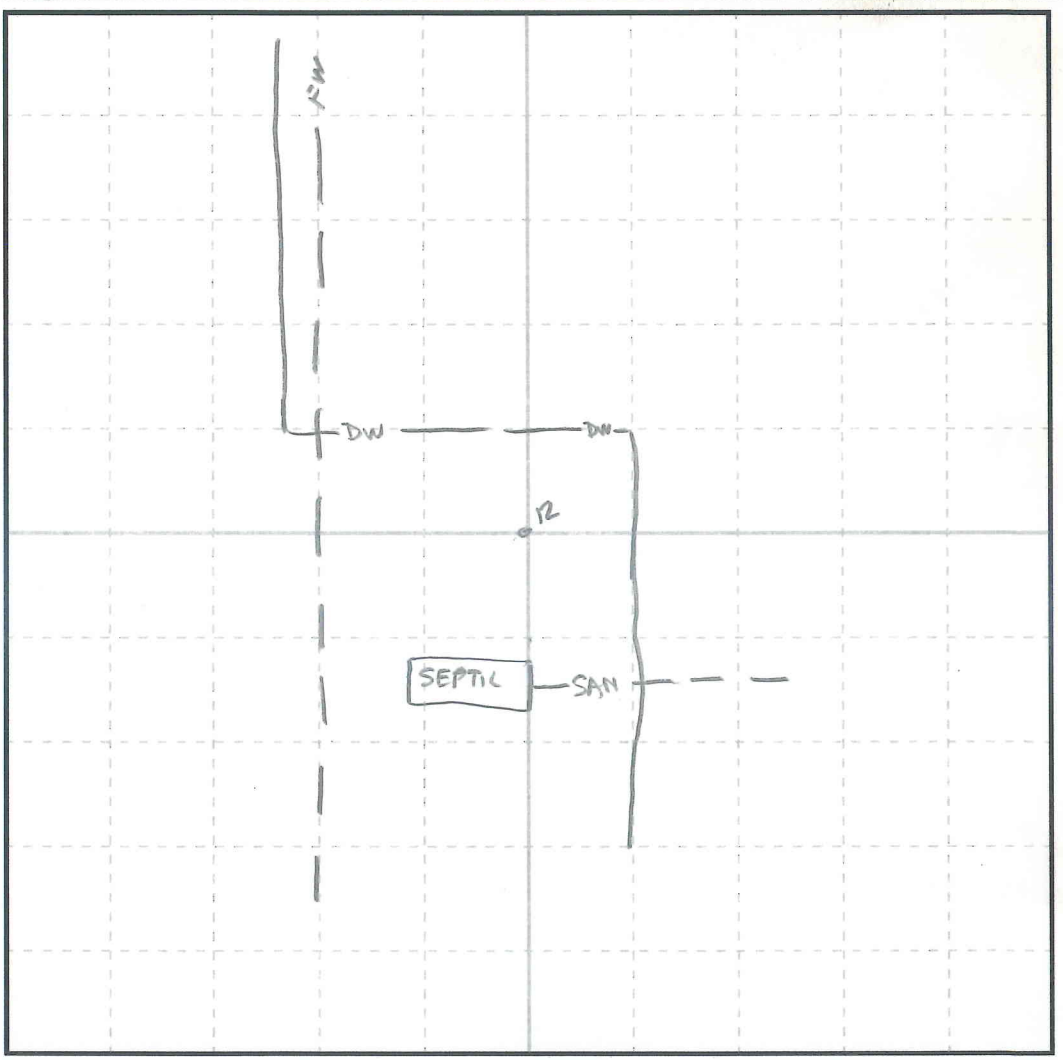
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: 400 | Approx. Depth: |
| | Range: 40 | File No.: |
| TW-6: | Setting: 7 | |
| C.A.T.: | Setting: (P) R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |




North




Scale 1 Block = 10 ft

Notes:

- 1 CAT (R) Anom (DW)
- 1 RD8000 - FW
- SEPTIC LINE

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** 569 & 13 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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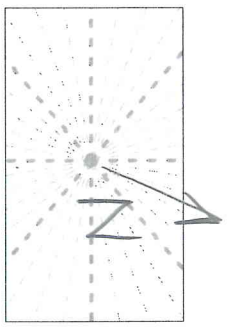
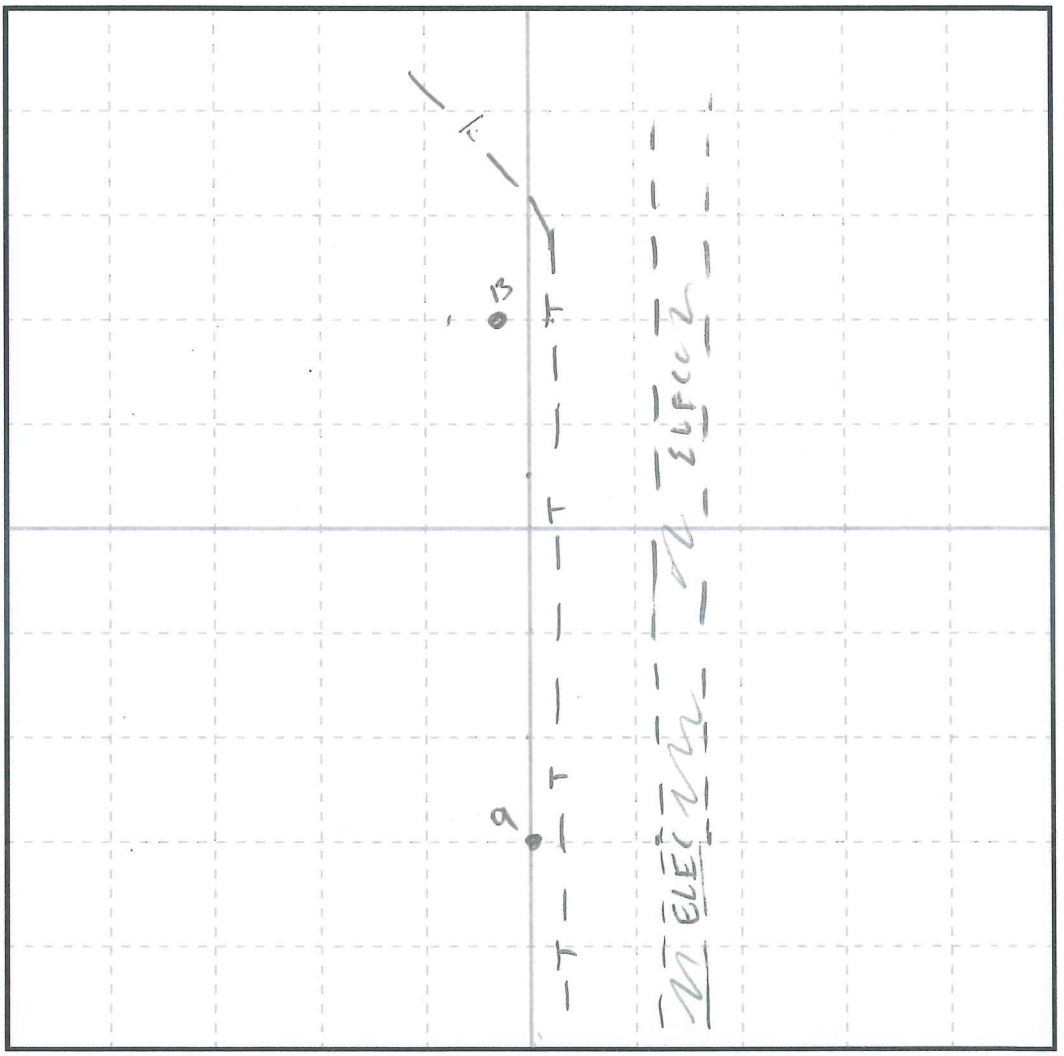
| | | |
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |



North




Scale 1 Block = 20 ft

Notes:

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG08, ALT 1, SG14 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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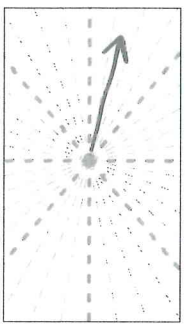
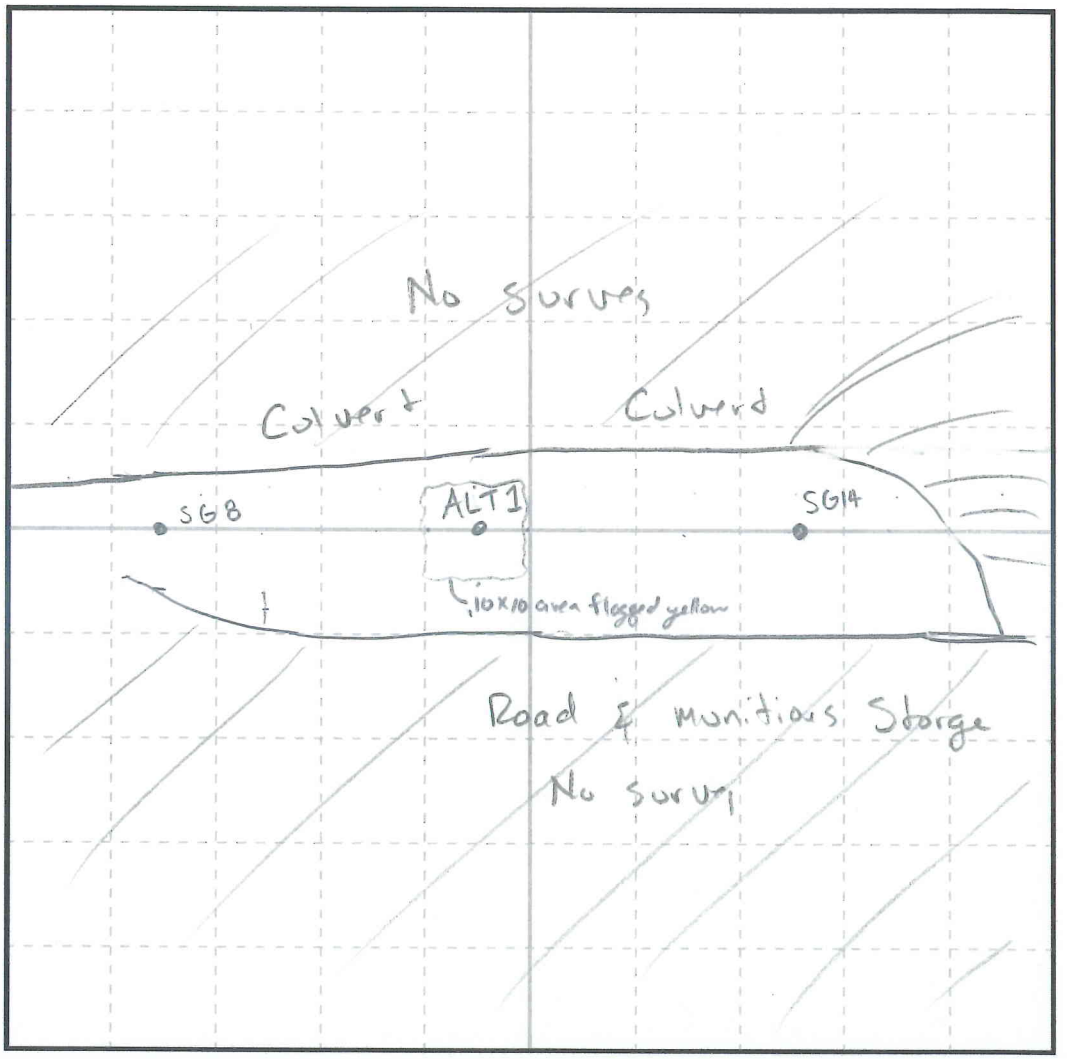
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |



North




Scale 1 Block = 20 ft

Notes:

- No utils found

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** 56 14 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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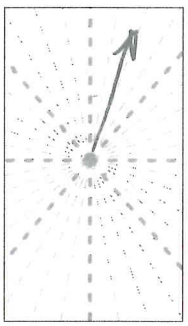
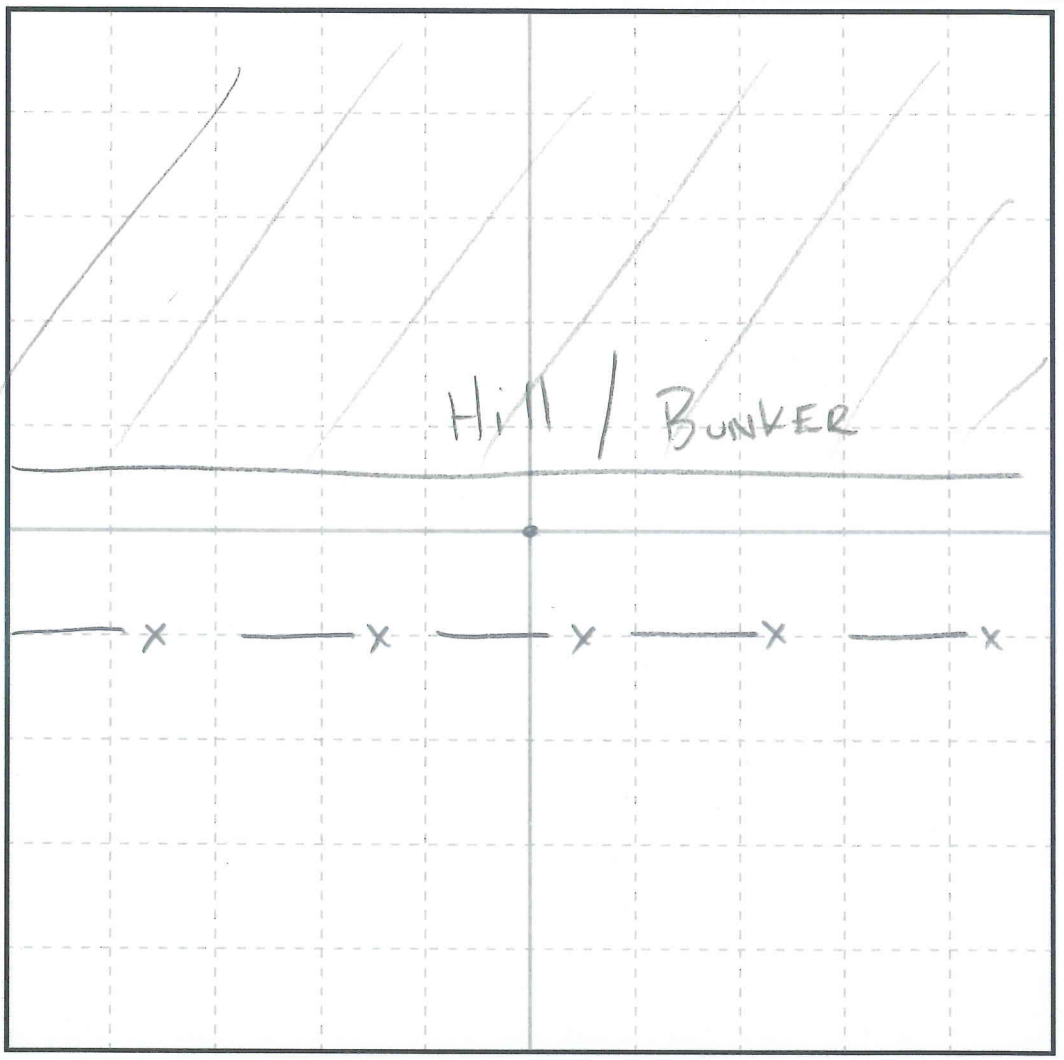
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: 7 | |
| C.A.T.: | Setting: (P) R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |



North




Scale 1 Block = 10 ft

Notes:

- 30' clear b/w fence & bunker
- No GPR - b/c terrain

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG18 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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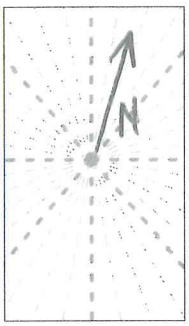
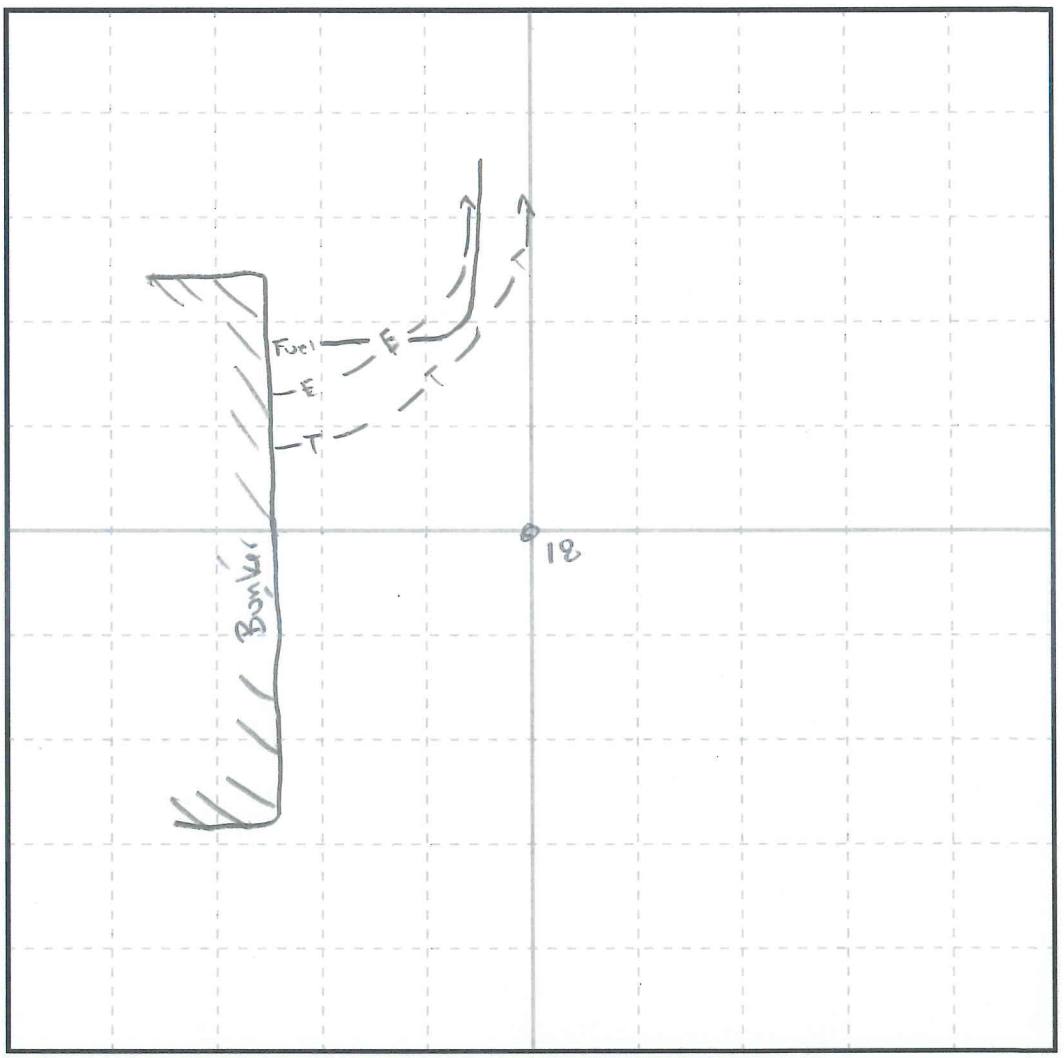
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |




North




Scale 1 Block = 10 ft

Notes:

1 GPR Fuel oil
1 E CAT (P)
1 Telcom CAT (R)

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG 19 (near Transformer) | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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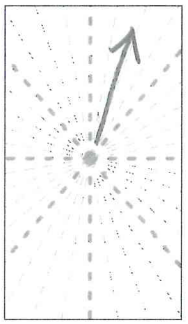
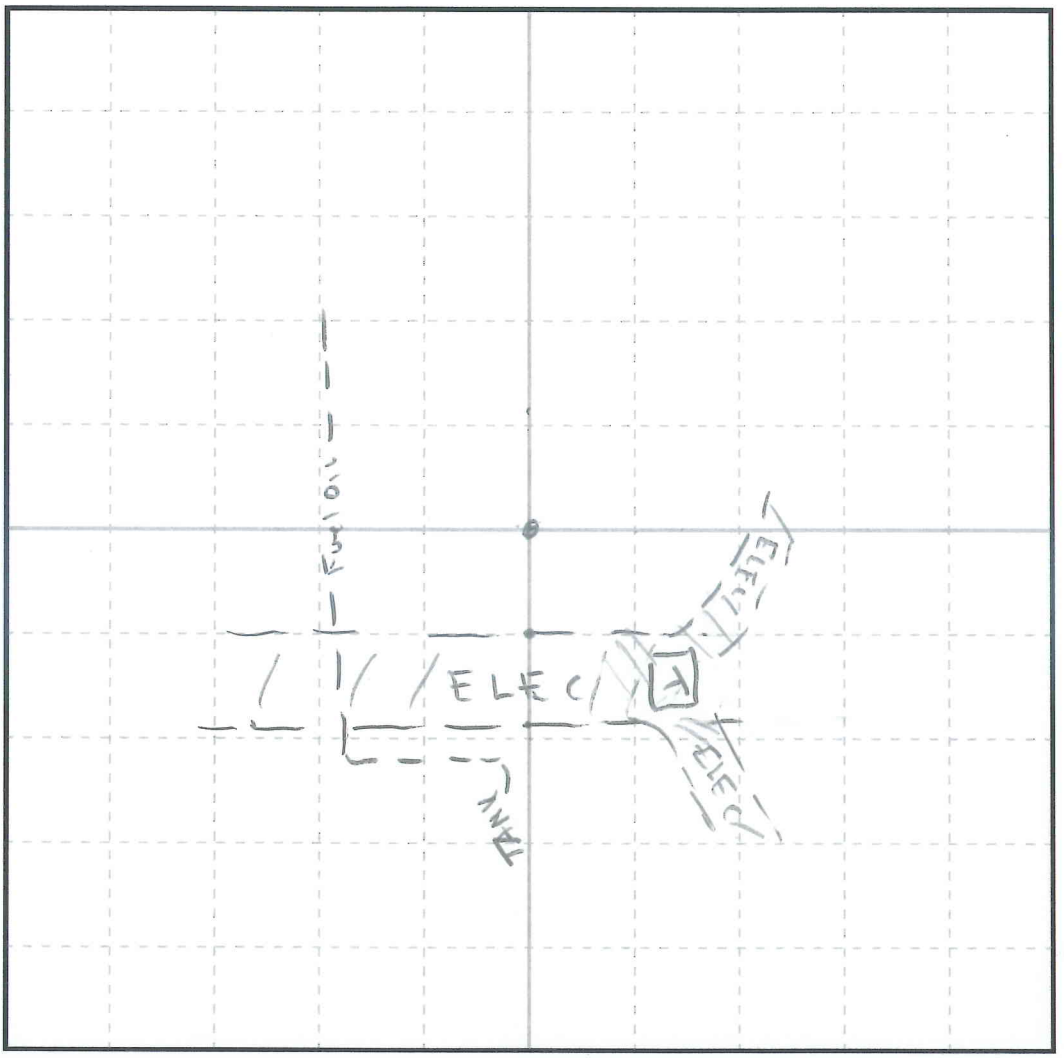
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |



North




Scale 1 Block = 10 ft

Notes:

1 Elec CAT(P)
1 Fuel oil (GPR

- [ ] GPR ineffective due to reinforced concrete pad
- [ ] GPR ineffective due to soil conditions
- [ ] TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG 20, SG 21 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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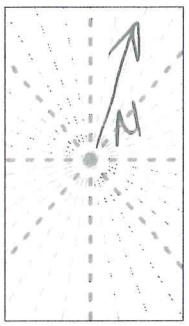
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |




North


Scale 1 Block = 20 ft

Notes: NO Anoms

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG 22 & 23 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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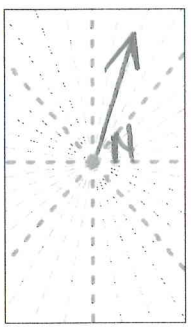
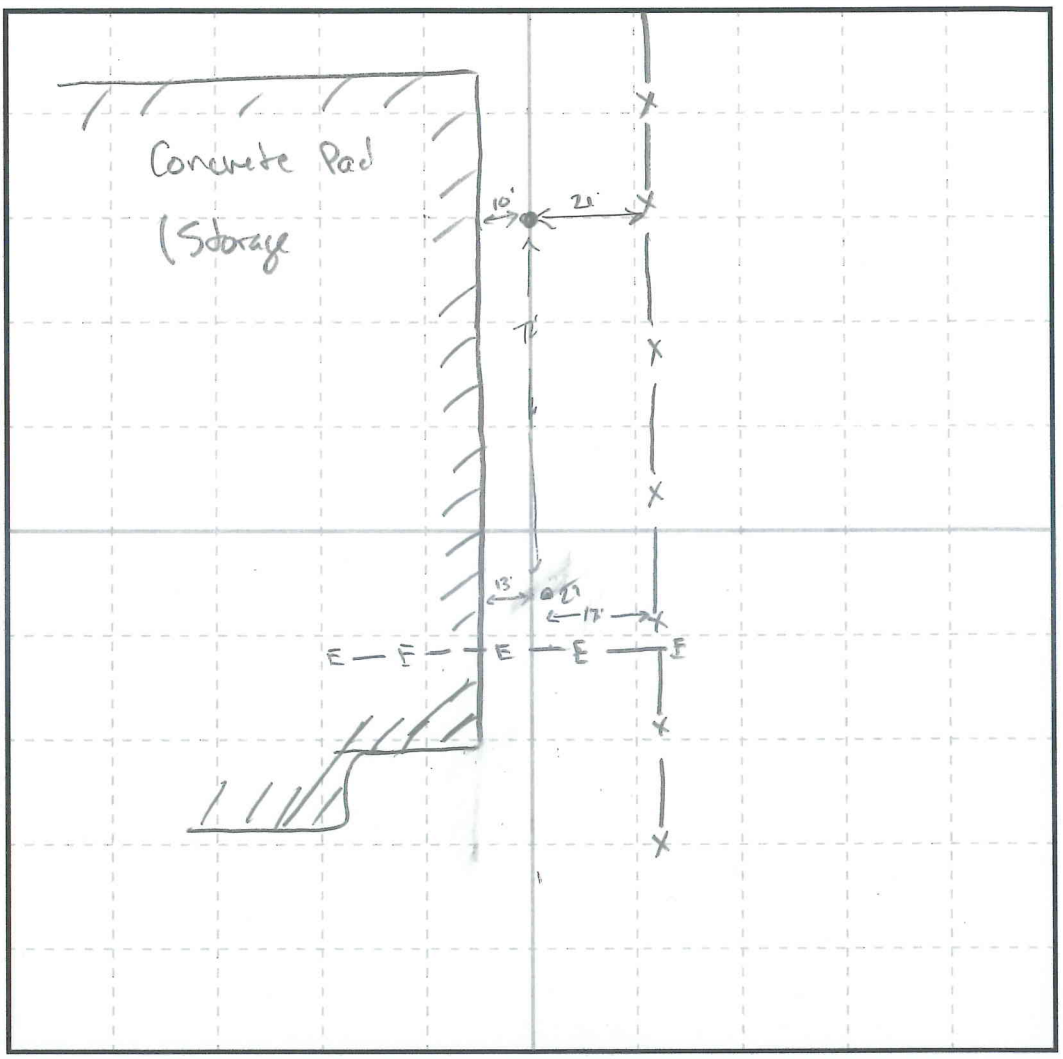
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |




North




Scale 1 Block = 20 ft

Notes:

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

| | |
|---|---|
| Project No.: 101133 | **Project Name: Martin State Airport** |
| **Location:** SG 24 | **Client: Tetra Tech** |
| **Date: Nov, 8 and 9** | **Time:** |

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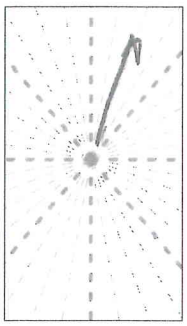
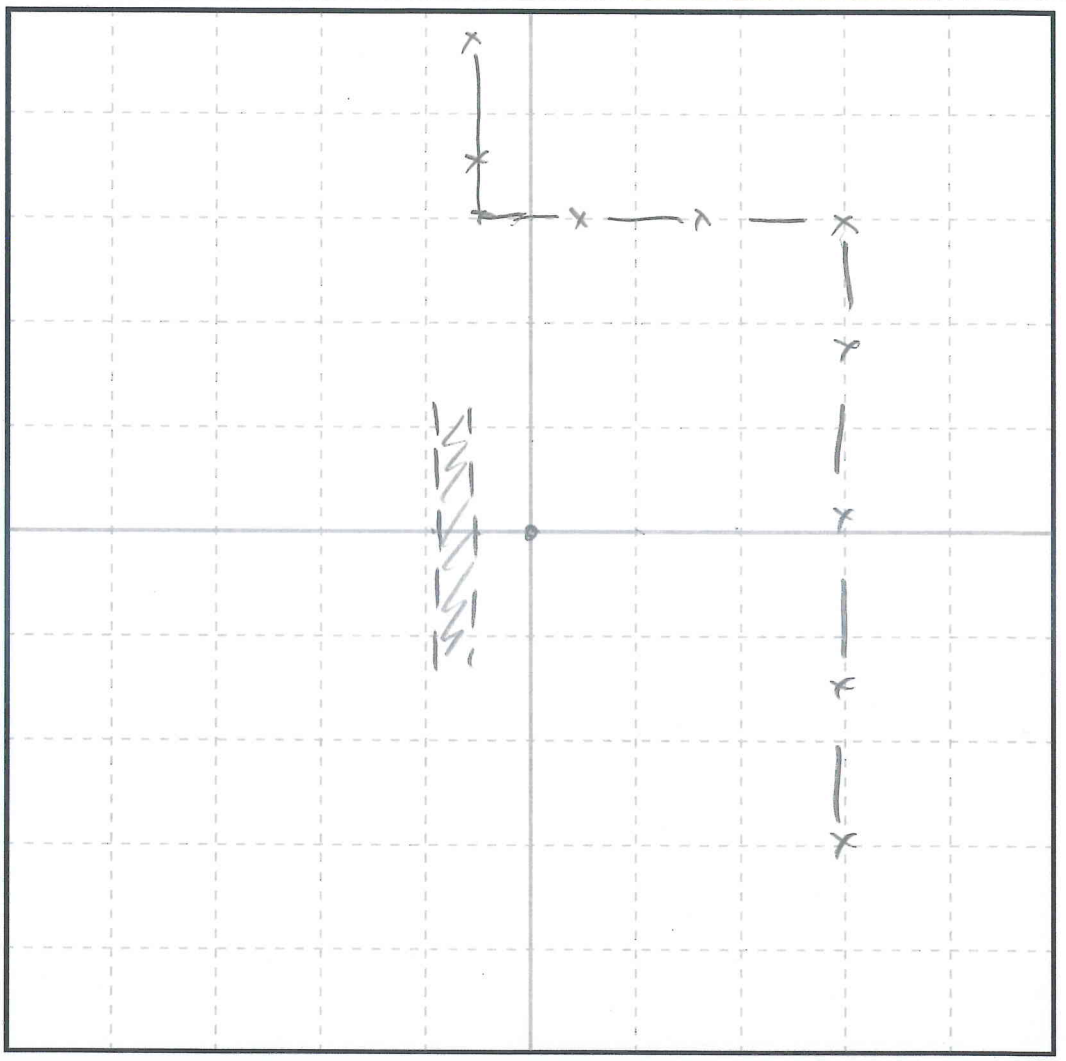
|---|---|---|
| GPR.: SIR 2000/ SIR 2 | Antenna: | Approx. Depth: |
| | Range: | File No.: |
| TW-6: | Setting: | |
| C.A.T.: | Setting: P R G | Color: |
| FX-3/Schonstedt: | Setting: | |
| Active Line Trace: | RD4000/RD8000/TW-6 | |



North



Scale 1 Block = 10 ft

Notes:

1 GPR anom possible remnant fence line

- ☐ GPR ineffective due to reinforced concrete pad
- ☐ GPR ineffective due to soil conditions
- ☐ TW-6 ineffective due to reinforced concrete pad

# APPENDIX B—SOIL VAPOR SAMPLE FIELD SHEETS

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/25/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

**SAMPLING DATA:**

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | | IAQ Sample ID: | IA1-012512 |
| SV Canister #: | | IAQ Canister #: | 368 |
| SV Regulator #: | | IAQ Regulator #: | 266 |
| SV Start Time: | | IAQ Start Time: | 0755 |
| SV Start Pressure: | | IAQ Start Pressure: | -30 |
| SV Stop Time: | | IAQ Stop Time: | 1555 |
| SV Stop Pressure: | | IAQ Stop Pressure: | 0 |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

**LOCATION:**

Maryland Air National Guard Munitions Area, Martin State Airport

LOCATED IN OFFICE

**OBSERVATIONS / NOTES:**

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/25/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | INDOOR AIR QUALITY SAMPLE |
|---|---|
| SV Sample ID: | IAQ Sample ID: IA2-012512 |
| SV Canister #: | IAQ Canister #: 159 |
| SV Regulator #: | IAQ Regulator #: 374 |
| SV Start Time: | IAQ Start Time: 0756 |
| SV Start Pressure: | IAQ Start Pressure: -30 |
| SV Stop Time: | IAQ Stop Time: 1556 |
| SV Stop Pressure: | IAQ Stop Pressure: 0 |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

LOCATED IN CONFERENCE ROOM

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/25/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | | IAQ Sample ID: | IA3-012512 |
| SV Canister #: | | IAQ Canister #: | 430 |
| SV Regulator #: | | IAQ Regulator #: | 267 |
| SV Start Time: | | IAQ Start Time: | 0800 |
| SV Start Pressure: | | IAQ Start Pressure: | -30 |
| SV Stop Time: | | IAQ Stop Time: | 1600 |
| SV Stop Pressure: | | IAQ Stop Pressure: | 0 |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

LOCATED IN MUNITIONS BUILDING

## OBSERVATIONS / NOTES:

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG1-012012 | IAQ Sample ID: | |
| SV Canister #: | 558 | IAQ Canister #: | |
| SV Regulator #: | 249 | IAQ Regulator #: | |
| SV Start Time: | 1136 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1206 | IAQ Stop Time: | |
| SV Stop Pressure: | -2 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG2-012012 | IAQ Sample ID: | |
| SV Canister #: | 192 | IAQ Canister #: | |
| SV Regulator #: | 56 | IAQ Regulator #: | |
| SV Start Time: | 1002 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1032 | IAQ Stop Time: | |
| SV Stop Pressure: | -4 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG3-012012 | IAQ Sample ID: | |
| SV Canister #: | 215 | IAQ Canister #: | |
| SV Regulator #: | 79 | IAQ Regulator #: | |
| SV Start Time: | 1056 | IAQ Start Time: | |
| SV Start Pressure: | -40 | IAQ Start Pressure: | |
| SV Stop Time: | 1126 | IAQ Stop Time: | |
| SV Stop Pressure: | -4 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG4-012012 | IAQ Sample ID: | |
| SV Canister #: | 495 | IAQ Canister #: | |
| SV Regulator #: | 53 | IAQ Regulator #: | |
| SV Start Time: | 1307 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1407 | IAQ Stop Time: | |
| SV Stop Pressure: | -4 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG07-012012 | IAQ Sample ID: | |
| SV Canister #: | 328 | IAQ Canister #: | |
| SV Regulator #: | 126 | IAQ Regulator #: | |
| SV Start Time: | 1508 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1538 | IAQ Stop Time: | |
| SV Stop Pressure: | -1 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | 5608-012012 | IAQ Sample ID: | |
| SV Canister #: | 471 | IAQ Canister #: | |
| SV Regulator #: | 339 | IAQ Regulator #: | |
| SV Start Time: | 1313 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1343 | IAQ Stop Time: | |
| SV Stop Pressure: | -1 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

Circle if Applicable:

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | S609-012012 | IAQ Sample ID: | |
| SV Canister #: | 332 | IAQ Canister #: | |
| SV Regulator #: | 78 | IAQ Regulator #: | |
| SV Start Time: | 0954 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1040 | IAQ Stop Time: | |
| SV Stop Pressure: | -10 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG10-011912 | IAQ Sample ID: | |
| SV Canister #: | 554 | IAQ Canister #: | |
| SV Regulator #: | 80 | IAQ Regulator #: | |
| SV Start Time: | 0955 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1025 | IAQ Stop Time: | |
| SV Stop Pressure: | -3 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG11-011912 | IAQ Sample ID: | |
| SV Canister #: | 223 | IAQ Canister #: | |
| SV Regulator #: | 65 | IAQ Regulator #: | |
| SV Start Time: | 0910 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 0940 | IAQ Stop Time: | |
| SV Stop Pressure: | -4 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

**SAMPLING DATA:**

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | S612-011912 | IAQ Sample ID: | |
| SV Canister #: | 163 | IAQ Canister #: | |
| SV Regulator #: | 177 | IAQ Regulator #: | |
| SV Start Time: | 1043 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1143 | IAQ Stop Time: | |
| SV Stop Pressure: | -5 | IAQ Stop Pressure: | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

**LOCATION:**

Maryland Air National Guard Munitions Area, Martin State Airport

**OBSERVATIONS / NOTES:**

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | 9613-012012 | IAQ Sample ID: | |
| SV Canister #: | 161 | IAQ Canister #: | |
| SV Regulator #: | 381 | IAQ Regulator #: | |
| SV Start Time: | 0911 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 0941 | IAQ Stop Time: | |
| SV Stop Pressure: | -4 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | S614-012012 | IAQ Sample ID: | |
| SV Canister #: | 547 | IAQ Canister #: | |
| SV Regulator #: | 57 | IAQ Regulator #: | |
| SV Start Time: | 1353 | IAQ Start Time: | |
| SV Start Pressure: | -24 | IAQ Start Pressure: | |
| SV Stop Time: | 1423 | IAQ Stop Time: | |
| SV Stop Pressure: | -1 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG15-012012 | IAQ Sample ID: | |
| SV Canister #: | 353 | IAQ Canister #: | |
| SV Regulator #: | 402 | IAQ Regulator #: | |
| SV Start Time: | 1440 | IAQ Start Time: | |
| SV Start Pressure: | -29 | IAQ Start Pressure: | |
| SV Stop Time: | 1510 | IAQ Stop Time: | |
| SV Stop Pressure: | -1 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG17-012012 | IAQ Sample ID: | |
| SV Canister #: | 561 | IAQ Canister #: | |
| SV Regulator #: | 118 | IAQ Regulator #: | |
| SV Start Time: | 1430 | IAQ Start Time: | |
| SV Start Pressure: | -27 | IAQ Start Pressure: | |
| SV Stop Time: | 1500 | IAQ Stop Time: | |
| SV Stop Pressure: | -4 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

Circle if Applicable:

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG18-011912 | IAQ Sample ID: | |
| SV Canister #: | 200 | IAQ Canister #: | |
| SV Regulator #: | 54 | IAQ Regulator #: | |
| SV Start Time: | 1553 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1623 | IAQ Stop Time: | |
| SV Stop Pressure: | -5 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

## Circle if Applicable:

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

**SAMPLING DATA:**

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG19-012012 | IAQ Sample ID: | |
| SV Canister #: | 165 | IAQ Canister #: | |
| SV Regulator #: | 60 | IAQ Regulator #: | |
| SV Start Time: | 0825 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 0855 | IAQ Stop Time: | |
| SV Stop Pressure: | -23 | IAQ Stop Pressure: | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

**LOCATION:**

Maryland Air National Guard Munitions Area, Martin State Airport

**OBSERVATIONS / NOTES:**

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG20-011912 | IAQ Sample ID: | |
| SV Canister #: | 240 | IAQ Canister #: | |
| SV Regulator #: | 123 | IAQ Regulator #: | |
| SV Start Time: | 1208 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1238 | IAQ Stop Time: | |
| SV Stop Pressure: | -1 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | S621-011912 | IAQ Sample ID: | |
| SV Canister #: | 170 | IAQ Canister #: | |
| SV Regulator #: | 146 | IAQ Regulator #: | |
| SV Start Time: | 1250 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1320 | IAQ Stop Time: | |
| SV Stop Pressure: | -3 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/20/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | SG22-012012 | IAQ Sample ID: | |
| SV Canister #: | 232 | IAQ Canister #: | |
| SV Regulator #: | 179 | IAQ Regulator #: | |
| SV Start Time: | 1224 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1254 | IAQ Stop Time: | |
| SV Stop Pressure: | -4 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | S623-011912 | IAQ Sample ID: | |
| SV Canister #: | 463 | IAQ Canister #: | |
| SV Regulator #: | 69 | IAQ Regulator #: | |
| SV Start Time: | 1331 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1401 | IAQ Stop Time: | |
| SV Stop Pressure: | 0 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | S624-011912 | IAQ Sample ID: | |
| SV Canister #: | 364 | IAQ Canister #: | |
| SV Regulator #: | 121 | IAQ Regulator #: | |
| SV Start Time: | 1413 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1443 | IAQ Stop Time: | |
| SV Stop Pressure: | -5 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

TETRA TECH

# SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET



Project Site Name: MDANG Soil Vapor and Indoor Air

Date: 1/19/12

Project Number - Task: 112IC03634

Sampled By: TA/WP

## SAMPLING DATA:

| SOIL VAPOR SAMPLE | | INDOOR AIR QUALITY SAMPLE | |
|---|---|---|---|
| SV Sample ID: | S625-011912 | IAQ Sample ID: | |
| SV Canister #: | 421 | IAQ Canister #: | |
| SV Regulator #: | 302 | IAQ Regulator #: | |
| SV Start Time: | 1456 | IAQ Start Time: | |
| SV Start Pressure: | -30 | IAQ Start Pressure: | |
| SV Stop Time: | 1526 | IAQ Stop Time: | |
| SV Stop Pressure: | -5 | IAQ Stop Pressure: | |

## SAMPLE COLLECTION INFORMATION:

| Analysis | Container Requirements | Collected |
|---|---|---|
| | | |
| VOC | Summa Canister | X |
| | | |
| | | |

## LOCATION:

Maryland Air National Guard Munitions Area, Martin State Airport

## OBSERVATIONS / NOTES:

Circle if Applicable:

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s):

# APPENDIX C—DATA VALIDATION REPORTS

**Tetra Tech** **INTERNAL CORRESPONDENCE**

**TO:** **A. APANAVAGE** **DATE:** **MARCH 1, 2012**

**FROM:** **A. COGNETTI** **COPIES:** **DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION – VOC**
**MARTIN STATE AIRPORT**
**SAMPLE DELIVERY GROUPS (SDGs) – C1201051 and C1201063**

**SAMPLES:** 26/Air/VOC

| | | | |
|---|---|---|---|
| IA1-012512 | IA2-012512 | IA3-012512 | SG07-012012 |
| SG08-012012 | SG09-012012 | SG1-012012 | SG10-011912 |
| SG11-011912 | SG12-011912 | SG13-012012 | SG14-012012 |
| SG15-012012 | SG17-012012 | SG18-011912 | SG19-012012 |
| SG2-012012 | SG20-011912 | SG21-011912 | SG22-012012 |
| SG23-011912 | SG24-011912 | SG25-011912 | SG3-012012 |
| SG4-012012 | TB-012012 | | |

Overview

The sample set for Martin State Airport, SDGs C1201051 and C1201063 consisted of twenty five (25) air samples and a trip blank. All samples were analyzed for volatile organic compounds (VOC). No field duplicate pairs were included in this SDG.

The samples were collected on January 19, 20 and 25, 2012 and analyzed by Centek Laboratories, LLC. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

- Tentatively Identified Compounds (TICs), containing siloxanes, are indicative of analytical column bleed and were qualified as rejected, R.

Minor

- Several laboratory control sample/laboratory control sample duplicate (LCS/LCSD) percent recoveries (%Rs) and/or relative percent differences (RPDs) of compounds were outside quality control limits. Samples were associated with the LCS according to the sample identification number and the injection logbook sequence. The table on page 2 outlines the LCS/LCSD noncompliances and the resulting data qualification.

| LCS Sample ID | Compound | LCS %R | LCSD %R | RPD | Qualification |
|---|---|---|---|---|---|
| ALCS1UG-012712 | Methylene chloride | >UL | >UL | Ok | K |
| | 1,1-dichloroethene | Ok | <LL | >UL | UL |
| | Carbon tetrachloride | Ok | <LL | Ok | No action |
| | Chloromethane | Ok | <LL | >UL | L, UL |
| | dichlorodifluoromethane | Ok | <LL | Ok | No action |
| | Naphthalene | Ok | <LL | >UL | L, J, UL |
| | Vinyl chloride | Ok | <LL | Ok | No action |
| ALCS1UG-012812 * | 1,1,2-trichloroethane | >UL | >UL | Ok | No action |
| | 1,2,4-trimethylbenzene | >UL | >UL | Ok | No action |
| | Ethylbenzene | >UL | >UL | Ok | No action |
| | m&p xylenes | >UL | >UL | Ok | K |
| | Naphthalene | >UL | Ok | Ok | No action |
| | o-xylene | >UL | >UL | Ok | K |
| | 1,2-dichloroethane | Ok | >UL | Ok | No action |
| | Benzene | Ok | >UL | Ok | No action |
| | Chlorobenzene | Ok | >UL | Ok | No action |
| | Chloroform | Ok | >UL | Ok | No action |
| | Cis-1,2-dichloroethene | Ok | >UL | Ok | No action |
| | Methyl ethyl ketone | Ok | >UL | >UL | K |
| | Toluene | Ok | >UL | Ok | No action |

*LCS, ALCS1UG-012812, affects samples analyzed after 12 pm on January 28, 2012 and all samples analyzed on January 29, 2012.

- Several compounds had matrix spike/ matrix spike duplicate (MS/MSD) %Rs outside quality control limits in sample SG3-012012. The following table outlines the MS/MSD noncompliances and the resulting data qualification in sample SG3-012012.

| Compound | MS %R | MSD %R | RPD | Sample conc. >4X spike conc. | Qualification |
|---|---|---|---|---|---|
| 1,2,4-trimethylbenzene | >UL | >UL | Ok | Yes | No action |
| Carbon disulfide | <LL | <LL | Ok | Yes | No action |
| Ethylbenzene | >UL | >UL | Ok | No | K |
| m&p xylenes | >UL | >UL | Ok | No | K |
| Methyl ethyl ketone | >UL | >UL | Ok | Yes | No action |
| Methylene chloride | >UL | >UL | Ok | No | No action |
| Naphthalene | >UL | Ok | >UL | No | J, conflicting bias |
| o-xylene | >UL | >UL | Ok | No | K |
| 1,2,4-trichlorobenzene | Ok | <LL | >UL | No | UL |
| Chloromethane | Ok | <LL | >UL | No | L |
| Toluene | Ok | >UL | Ok | Yes | No action |

- TICs were reported for each sample. TICs, not related to column bleed, are considered presumptively present and were qualified as estimated (NJ).

Notes

Nondetected results were reported to the reporting limit.

Target compounds were reported in ug/$m^3$ units.

TICs were reported in ppbv units by the laboratory. TIC results were not converted to ug/$m^3$ units by the laboratory.

Executive Summary

**Laboratory Performance:** Several LCS/LCSD percent recoveries %Rs and/or RPDs of compounds were outside quality control limits.

**Other Factors Affecting Data Quality:** Several compounds had MS/MSD %Rs outside quality control limits in sample SG3-012012. TICs were qualified as estimated (NJ).

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

For Tetra Tech
Ann Cognetti
Chemist/Data Validator

Tetra Tech
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

**Appendix A**

Qualified Analytical Results

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

| PROJ_NO: 03634 | NSAMPLE | IA1-012512 | | | IA2-012512 | | | IA3-012512 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201063 | LAB_ID | C1201063-001A | | | C1201063-002A | | | C1201063-003A | | |
| FRACTION: OV | SAMP_DATE | 1/25/2012 | | | 1/25/2012 | | | 1/25/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | |
| | UNITS | UG/M3 | | | UG/M3 | | | UG/M3 | | |
| | PCT_SOLIDS | | | | | | | | | |
| | DUP_OF | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,1,1-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1,2-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,1-DICHLOROETHENE | | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E |
| 1,2,4-TRICHLOROBENZENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| 1,2,4-TRIMETHYLBENZENE | | 1.6 | | | 1 | | | 1.8 | | |
| 1,2-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,2-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,3-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,4-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 2-BUTANONE | | 26 | K | E | 4.3 | | | 3 | | |
| BENZENE | | 1.3 | | | 1.3 | | | 1.3 | | |
| CARBON DISULFIDE | | 0.47 | U | | 0.47 | U | | 0.47 | U | |
| CARBON TETRACHLORIDE | | 0.26 | U | | 0.26 | U | | 0.26 | U | |
| CHLOROBENZENE | | 0.7 | U | | 0.7 | U | | 0.7 | U | |
| CHLOROFORM | | 0.65 | J | P | 0.6 | J | P | 0.74 | U | |
| CHLOROMETHANE | | 0.31 | UL | E | 0.97 | L | E | 0.73 | L | E |
| CIS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| DICHLORODIFLUOROMETHANE | | 2.3 | | | 2.4 | | | 0.75 | U | |
| ETHYLBENZENE | | 0.75 | | | 0.71 | | | 0.84 | | |
| M+P-XYLENES | | 1.9 | | | 1.7 | | | 4.1 | | |
| METHYL TERT-BUTYL ETHER | | 0.55 | U | | 0.55 | U | | 0.55 | U | |
| METHYLENE CHLORIDE | | 0.99 | K | E | 0.46 | J | EP | 0.53 | U | |
| NAPHTHALENE | | 5.1 | L | E | 2.1 | L | E | 6.9 | L | E |
| O-XYLENE | | 0.71 | | | 0.62 | J | P | 1.9 | | |
| TETRACHLOROETHENE | | 1 | U | | 1 | U | | 1 | U | |
| TOLUENE | | 3.5 | | | 3.2 | | | 3.1 | | |
| TRANS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| TRICHLOROETHENE | | 0.22 | U | | 0.22 | U | | 0.22 | U | |
| VINYL CHLORIDE | | 0.1 | U | | 0.1 | U | | 0.1 | U | |

| PROJ_NO: 03634 | NSAMPLE | SG07-012012 | | | SG08-012012 | | | SG09-012012 | | | SG10-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-022A | | | C1201051-018A | | | C1201051-012A | | | C1201051-002A | | |
| FRACTION: OV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/M3 | | | UG/M3 | | | UG/M3 | | | UG/M3 | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,1,1-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1,2-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,1-DICHLOROETHENE | | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E |
| 1,2,4-TRICHLOROBENZENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| 1,2,4-TRIMETHYLBENZENE | | 17 | K | E | 32 | K | E | 8.5 | K | E | 11 | | |
| 1,2-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,2-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,3-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,4-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 2-BUTANONE | | 22 | K | E | 51 | K | E | 51 | K | E | 8.7 | J | P |
| BENZENE | | 24 | | | 21 | | | 24 | | | 2.5 | | |
| CARBON DISULFIDE | | 4 | | | 4.9 | | | 7.3 | | | 0.79 | | |
| CARBON TETRACHLORIDE | | 0.26 | U | | 0.26 | U | | 0.26 | U | | 0.26 | U | |
| CHLOROBENZENE | | 0.7 | U | | 0.7 | U | | 0.7 | U | | 0.7 | U | |
| CHLOROFORM | | 0.74 | U | | 0.74 | U | | 0.74 | U | | 0.74 | U | |
| CHLOROMETHANE | | 0.31 | UL | E | 0.31 | UL | E | 0.31 | UL | E | 0.78 | L | E |
| CIS-1,2-DICHLOROETHENE | | 4.1 | | | 0.6 | | | 0.6 | U | | 0.6 | U | |
| DICHLORODIFLUOROMETHANE | | 2 | | | 2.2 | | | 2.1 | | | 2.6 | | |
| ETHYLBENZENE | | 4.2 | | | 5.8 | | | 4.4 | | | 3.4 | | |
| M+P-XYLENES | | 14 | | | 24 | K | E | 14 | | | 11 | | |
| METHYL TERT-BUTYL ETHER | | 0.55 | U | | 0.55 | U | | 0.55 | U | | 0.55 | U | |
| METHYLENE CHLORIDE | | 0.71 | K | E | 0.74 | K | E | 0.64 | K | E | 0.46 | J | EP |
| NAPHTHALENE | | 5.6 | L | E | 11 | L | E | 2.8 | L | E | 3.6 | L | E |
| O-XYLENE | | 9 | | | 15 | K | E | 7.7 | | | 5.9 | | |
| TETRACHLOROETHENE | | 1 | U | | 1.8 | | | 1 | U | | 1 | U | |
| TOLUENE | | 41 | | | 32 | | | 22 | | | 26 | | |
| TRANS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| TRICHLOROETHENE | | 0.22 | U | | 0.22 | U | | 0.22 | U | | 0.22 | U | |
| VINYL CHLORIDE | | 77 | | | 0.1 | U | | 0.1 | U | | 0.1 | U | |

| PROJ_NO: 03634 | NSAMPLE | SG1-012012 | | | SG11-011912 | | | SG12-011912 | | | SG13-012012 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-015A | | | C1201051-001A | | | C1201051-003A | | | C1201051-011A | | |
| FRACTION: OV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/M3 | | | UG/M3 | | | UG/M3 | | | UG/M3 | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,1,1-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1,2-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,1-DICHLOROETHENE | | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E |
| 1,2,4-TRICHLOROBENZENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| 1,2,4-TRIMETHYLBENZENE | | 31 | K | E | 11 | | | 15 | | | 19 | K | E |
| 1,2-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,2-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,3-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,4-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 2-BUTANONE | | 470 | K | E | 5.4 | | | 18 | | | 220 | K | E |
| BENZENE | | 39 | | | 2.7 | | | 4.6 | | | 11 | | |
| CARBON DISULFIDE | | 13 | | | 1.2 | | | 1.8 | | | 4.1 | | |
| CARBON TETRACHLORIDE | | 0.26 | U | | 0.26 | U | | 0.26 | U | | 0.26 | U | |
| CHLOROBENZENE | | 0.7 | U | | 0.7 | U | | 0.7 | U | | 0.7 | U | |
| CHLOROFORM | | 350 | | | 0.74 | U | | 0.74 | U | | 0.74 | U | |
| CHLOROMETHANE | | 0.31 | UL | E | 0.73 | L | E | 0.31 | UL | E | 0.31 | UL | E |
| CIS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| DICHLORODIFLUOROMETHANE | | 1.8 | | | 2.1 | | | 2.1 | | | 2 | | |
| ETHYLBENZENE | | 8.8 | | | 3.7 | | | 4 | | | 4.9 | | |
| M+P-XYLENES | | 35 | K | E | 12 | | | 13 | | | 16 | | |
| METHYL TERT-BUTYL ETHER | | 0.55 | U | | 0.55 | U | | 0.55 | U | | 0.55 | U | |
| METHYLENE CHLORIDE | | 0.46 | J | EP | 0.53 | U | | 0.6 | K | E | 0.53 | U | |
| NAPHTHALENE | | 5.6 | L | E | 2.7 | L | E | 3 | L | E | 4.7 | L | E |
| O-XYLENE | | 19 | K | E | 7 | | | 7.5 | | | 9.4 | | |
| TETRACHLOROETHENE | | 1 | U | | 1 | U | | 1 | U | | 1 | U | |
| TOLUENE | | 76 | | | 16 | | | 22 | | | 33 | | |
| TRANS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| TRICHLOROETHENE | | 0.22 | U | | 0.22 | U | | 0.22 | U | | 0.22 | U | |
| VINYL CHLORIDE | | 0.1 | U | | 0.1 | U | | 0.1 | U | | 0.1 | U | |

| PROJ_NO: 03634 | NSAMPLE | SG14-012012 | | | SG15-012012 | | | SG17-012012 | | | SG18-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-019A | | | C1201051-021A | | | C1201051-020A | | | C1201051-009A | | |
| FRACTION: OV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/M3 | | | UG/M3 | | | UG/M3 | | | UG/M3 | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,1,1-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1,2-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,1-DICHLOROETHENE | | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E |
| 1,2,4-TRICHLOROBENZENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| 1,2,4-TRIMETHYLBENZENE | | 25 | K | E | 30 | K | E | 25 | K | E | 23 | K | E |
| 1,2-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,2-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,3-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,4-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 2-BUTANONE | | 55 | K | E | 110 | K | E | 130 | K | E | 400 | K | E |
| BENZENE | | 10 | | | 14 | | | 22 | | | 10 | | |
| CARBON DISULFIDE | | 2.1 | | | 5.3 | | | 0.47 | U | | 13 | | |
| CARBON TETRACHLORIDE | | 0.26 | U | | 0.26 | U | | 0.26 | U | | 0.26 | U | |
| CHLOROBENZENE | | 0.7 | U | | 0.7 | U | | 0.7 | U | | 0.7 | U | |
| CHLOROFORM | | 0.74 | U | | 0.74 | U | | 0.74 | U | | 0.74 | U | |
| CHLOROMETHANE | | 0.31 | UL | E | 0.31 | UL | E | 0.31 | UL | E | 0.31 | UL | E |
| CIS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| DICHLORODIFLUOROMETHANE | | 2.1 | | | 2 | | | 1.8 | | | 2.1 | | |
| ETHYLBENZENE | | 5.3 | | | 4.9 | | | 4.9 | | | 4.6 | | |
| M+P-XYLENES | | 18 | K | E | 17 | | | 17 | | | 16 | | |
| METHYL TERT-BUTYL ETHER | | 0.55 | U | | 0.55 | U | | 0.55 | U | | 0.55 | U | |
| METHYLENE CHLORIDE | | 2.6 | K | E | 0.42 | J | EP | 0.71 | K | E | 0.67 | K | E |
| NAPHTHALENE | | 11 | L | E | 7.2 | L | E | 3.9 | L | E | 4.4 | L | E |
| O-XYLENE | | 11 | K | E | 14 | K | E | 16 | K | E | 11 | K | E |
| TETRACHLOROETHENE | | 1 | U | | 1 | U | | 1 | U | | 1 | U | |
| TOLUENE | | 22 | | | 28 | | | 34 | | | 23 | | |
| TRANS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| TRICHLOROETHENE | | 0.66 | | | 0.22 | U | | 0.22 | U | | 0.22 | U | |
| VINYL CHLORIDE | | 0.1 | U | | 0.1 | U | | 0.1 | U | | 0.1 | U | |

| PROJ_NO: 03634 | NSAMPLE | SG19-012012 | | | SG20-011912 | | | SG2-012012 | | | SG21-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-010A | | | C1201051-004A | | | C1201051-013A | | | C1201051-005A | | |
| FRACTION: OV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/M3 | | | UG/M3 | | | UG/M3 | | | UG/M3 | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,1,1-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1,2-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,1-DICHLOROETHENE | | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E |
| 1,2,4-TRICHLOROBENZENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| 1,2,4-TRIMETHYLBENZENE | | 22 | K | E | 18 | | | 16 | K | E | 27 | | |
| 1,2-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,2-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,3-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,4-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 2-BUTANONE | | 240 | K | E | 11 | | | 72 | K | E | 57 | | |
| BENZENE | | 24 | | | 4.5 | | | 27 | | | 6.3 | | |
| CARBON DISULFIDE | | 27 | | | 2 | | | 14 | | | 3.9 | | |
| CARBON TETRACHLORIDE | | 0.26 | U | | 0.26 | U | | 0.26 | U | | 0.26 | U | |
| CHLOROBENZENE | | 0.7 | U | | 0.7 | U | | 0.7 | U | | 0.7 | U | |
| CHLOROFORM | | 0.74 | U | | 0.74 | U | | 0.74 | U | | 0.74 | U | |
| CHLOROMETHANE | | 0.31 | UL | E | 0.31 | UL | E | 0.31 | UL | E | 0.31 | UL | E |
| CIS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| DICHLORODIFLUOROMETHANE | | 1.8 | | | 1.7 | | | 2.1 | | | 2.1 | | |
| ETHYLBENZENE | | 4.2 | | | 5.1 | | | 6.8 | | | 5.1 | | |
| M+P-XYLENES | | 14 | | | 16 | | | 18 | K | E | 17 | | |
| METHYL TERT-BUTYL ETHER | | 0.55 | U | | 0.55 | U | | 0.55 | U | | 0.55 | U | |
| METHYLENE CHLORIDE | | 1.3 | K | E | 0.39 | J | EP | 0.46 | J | EP | 0.39 | J | EP |
| NAPHTHALENE | | 3.5 | L | E | 6 | L | E | 5.6 | L | E | 7.9 | L | E |
| O-XYLENE | | 8.2 | | | 9.2 | | | 9.7 | K | E | 9.4 | | |
| TETRACHLOROETHENE | | 1 | U | | 1 | U | | 1 | U | | 1 | U | |
| TOLUENE | | 36 | | | 29 | | | 51 | | | 35 | | |
| TRANS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| TRICHLOROETHENE | | 0.22 | U | | 0.22 | U | | 0.22 | U | | 0.22 | U | |
| VINYL CHLORIDE | | 0.1 | U | | 0.1 | U | | 0.1 | U | | 0.1 | U | |

| PROJ_NO: 03634 | NSAMPLE | SG22-012012 | | | SG23-011912 | | | SG24-011912 | | | SG25-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-016A | | | C1201051-006A | | | C1201051-007A | | | C1201051-008A | | |
| FRACTION: OV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/M3 | | | UG/M3 | | | UG/M3 | | | UG/M3 | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,1,1-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1,2-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,1-DICHLOROETHENE | | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E |
| 1,2,4-TRICHLOROBENZENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| 1,2,4-TRIMETHYLBENZENE | | 26 | K | E | 25 | | | 19 | K | E | 2.4 | | |
| 1,2-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,2-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | | 0.7 | | |
| 1,3-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,4-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 2-BUTANONE | | 270 | K | E | 30 | | | 40 | K | E | 22 | K | E |
| BENZENE | | 39 | | | 4.1 | | | 10 | | | 1.4 | | |
| CARBON DISULFIDE | | 33 | | | 1.8 | | | 1.3 | | | 0.6 | | |
| CARBON TETRACHLORIDE | | 0.26 | U | | 0.26 | U | | 0.26 | U | | 0.26 | U | |
| CHLOROBENZENE | | 0.7 | U | | 0.7 | U | | 0.7 | U | | 0.7 | U | |
| CHLOROFORM | | 0.74 | U | | 0.74 | U | | 0.74 | U | | 0.5 | J | P |
| CHLOROMETHANE | | 0.67 | L | E | 0.31 | UL | E | 0.31 | UL | E | 0.31 | UL | E |
| CIS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| DICHLORODIFLUOROMETHANE | | 61 | | | 1.8 | | | 2 | | | 2.3 | | |
| ETHYLBENZENE | | 6.9 | | | 4.8 | | | 6.9 | | | 2.3 | | |
| M+P-XYLENES | | 30 | K | E | 17 | | | 23 | K | E | 5 | | |
| METHYL TERT-BUTYL ETHER | | 0.55 | U | | 0.55 | U | | 0.55 | U | | 0.55 | U | |
| METHYLENE CHLORIDE | | 0.49 | J | EP | 0.46 | J | EP | 0.56 | K | E | 5.7 | K | E |
| NAPHTHALENE | | 7.7 | L | E | 11 | L | E | 3.9 | L | E | 1 | L | E |
| O-XYLENE | | 16 | K | E | 10 | | | 13 | K | E | 2 | | |
| TETRACHLOROETHENE | | 1 | U | | 1 | U | | 1 | U | | 1 | U | |
| TOLUENE | | 60 | | | 22 | | | 34 | | | 270 | | |
| TRANS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| TRICHLOROETHENE | | 0.22 | U | | 0.22 | U | | 0.22 | U | | 0.22 | U | |
| VINYL CHLORIDE | | 0.1 | U | | 0.1 | U | | 0.1 | U | | 0.1 | U | |

| PROJ_NO: 03634 | NSAMPLE | SG3-012012 | | | SG4-012012 | | | TB-012012 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-014A | | | C1201051-017A | | | C1201051-023A | | |
| FRACTION: OV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | |
| | UNITS | UG/M3 | | | UG/M3 | | | UG/M3 | | |
| | PCT_SOLIDS | | | | | | | | | |
| | DUP_OF | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,1,1-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1,2-TRICHLOROETHANE | | 0.83 | U | | 0.83 | U | | 0.83 | U | |
| 1,1-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,1-DICHLOROETHENE | | 0.6 | UL | E | 0.6 | UL | E | 0.6 | UL | E |
| 1,2,4-TRICHLOROBENZENE | | 1.1 | UL | D | 1.1 | U | | 1.1 | U | |
| 1,2,4-TRIMETHYLBENZENE | | 14 | | | 9.9 | | | 0.75 | U | |
| 1,2-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,2-DICHLOROETHANE | | 0.62 | U | | 0.62 | U | | 0.62 | U | |
| 1,3-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 1,4-DICHLOROBENZENE | | 0.92 | U | | 0.92 | U | | 0.92 | U | |
| 2-BUTANONE | | 38 | | | 61 | K | E | 0.9 | U | |
| BENZENE | | 18 | | | 22 | | | 0.49 | U | |
| CARBON DISULFIDE | | 15 | | | 0.47 | U | | 0.47 | U | |
| CARBON TETRACHLORIDE | | 0.26 | U | | 0.26 | U | | 0.26 | U | |
| CHLOROBENZENE | | 0.7 | U | | 0.7 | U | | 0.7 | U | |
| CHLOROFORM | | 0.74 | U | | 0.74 | U | | 0.74 | U | |
| CHLOROMETHANE | | 0.55 | L | DE | 0.31 | UL | E | 0.31 | UL | E |
| CIS-1,2-DICHLOROETHENE | | 0.6 | U | | 3.7 | | | 0.6 | U | |
| DICHLORODIFLUOROMETHANE | | 1.8 | | | 0.9 | | | 0.75 | U | |
| ETHYLBENZENE | | 5.2 | K | D | 4.9 | | | 0.66 | U | |
| M+P-XYLENES | | 16 | K | D | 16 | | | 1.3 | U | |
| METHYL TERT-BUTYL ETHER | | 0.55 | U | | 0.55 | U | | 0.55 | U | |
| METHYLENE CHLORIDE | | 0.53 | U | | 0.53 | U | | 0.53 | U | |
| NAPHTHALENE | | 4.5 | J | DE | 0.8 | UL | E | 0.8 | UL | E |
| O-XYLENE | | 8.3 | K | D | 8.4 | | | 0.66 | U | |
| TETRACHLOROETHENE | | 1 | U | | 1 | U | | 1 | U | |
| TOLUENE | | 32 | | | 36 | | | 0.57 | U | |
| TRANS-1,2-DICHLOROETHENE | | 0.6 | U | | 0.6 | U | | 0.6 | U | |
| TRICHLOROETHENE | | 0.22 | U | | 1.3 | | | 0.22 | U | |
| VINYL CHLORIDE | | 0.1 | U | | 2.8 | | | 0.1 | U | |

| PROJ_NO: 03634 | NSAMPLE | IA1-012512 | | | IA2-012512 | | | IA3-012512 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201063 | LAB_ID | C1201063-001A | | | C1201063-002A | | | C1201063-003A | | |
| FRACTION: TICOV | SAMP_DATE | 1/25/2012 | | | 1/25/2012 | | | 1/25/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | |
| | DUP_OF | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 1,4-PENTADIENE | | | | | 0.92 | NJ | Z1 | | | |
| 2-PENTANONE | | 0.92 | NJ | Z1 | | | | | | |
| BENZALDEHYDE | | | | | 0.27 | NJ | Z1 | | | |
| BENZENE, 1,2,3,4-TETRAMETHYL- | | | | | | | | 0.62 | NJ | Z1 |
| BENZENE, 1,2,4,5-TETRAMETHYL- (18.9) | | | | | | | | 1 | NJ | Z1 |
| BENZENE, 1,2,4-TRIMETHYL- | | | | | | | | 0.43 | NJ | Z1 |
| BENZENE, 1-ETHYL-2-METHYL- | | | | | | | | 0.44 | NJ | Z1 |
| BENZENE, 1-ETHYL-3,5-DIMETHYL- | | | | | | | | 0.39 | NJ | Z1 |
| BENZENE, 1-METHYL-2-(1-METHYLETHYL | | 1.4 | NJ | Z1 | | | | 0.37 | NJ | Z1 |
| BENZENE, 1-METHYL-3-(1-METHYLETHYL | | 0.5 | NJ | Z1 | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLETHYL | | | | | | | | 1.5 | NJ | Z1 |
| BENZENE, 2-ETHYL-1,4-DIMETHYL- | | 0.41 | NJ | Z1 | 0.36 | NJ | Z1 | | | |
| BENZENE, 4-ETHYL-1,2-DIMETHYL- | | 0.7 | NJ | Z1 | | | | | | |
| BUTANE | | 1 | NJ | Z1 | | | | | | |
| CYCLOTRISILOXANE, HEXAMETHYL- | | 6.3 | NJ | Z1 | 10 | NJ | Z1 | 3.2 | R | Z2 |
| ETHANE, 1,1,2-TRICHLORO-1,2,2-TRIF | | | | | 0.25 | NJ | Z1 | | | |
| ETHANE, 1-CHLORO-1,1-DIFLUORO- | | 1.5 | NJ | Z1 | | | | | | |
| ETHANOL, 2-[(TRIMETHYLSILYL)OXY]- | | | | | 0.25 | NJ | Z1 | | | |
| HEXANAL | | 0.75 | NJ | Z1 | | | | | | |
| LIMONENE | | 7.8 | NJ | Z1 | | | | | | |
| METHALLYL CYANIDE | | 2 | NJ | Z1 | | | | | | |
| PENTANAL | | 0.51 | NJ | Z1 | | | | | | |
| PENTATRIACONTANE | | | | | | | | 1.1 | NJ | Z1 |
| TRICHLOROMONOFLUOROMETHANE | | | | | 0.24 | NJ | Z1 | 0.44 | NJ | Z1 |
| TRISILOXANE, OCTAMETHYL- | | | | | 0.24 | R | Z2 | | | |
| UNDECANE, 2,6-DIMETHYL- | | | | | | | | 1 | NJ | Z1 |
| UNDECANE, 4,6-DIMETHYL- | | 0.59 | NJ | Z1 | | | | | | |
| UNKNOWN (10.42) | | | | | | | | 0.43 | NJ | Z1 |
| UNKNOWN (10.53) | | 0.43 | NJ | Z1 | | | | | | |
| UNKNOWN (12.63) | | | | | 0.34 | NJ | Z1 | | | |
| UNKNOWN (16.43) | | 0.48 | NJ | Z1 | 0.41 | NJ | Z1 | | | |
| UNKNOWN (16.71) | | 2.9 | NJ | Z1 | 5.1 | NJ | Z1 | 11 | NJ | Z1 |
| UNKNOWN (17.83) | | | | | 1.9 | NJ | Z1 | | | |

| PROJ_NO: 03634 | NSAMPLE | IA1-012512 | | | IA2-012512 | | | IA3-012512 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201063 | LAB_ID | C1201063-001A | | | C1201063-002A | | | C1201063-003A | | |
| FRACTION: TICOV | SAMP_DATE | 1/25/2012 | | | 1/25/2012 | | | 1/25/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | |
| | DUP_OF | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| UNKNOWN (17.84) | | | | | | | | 0.45 | NJ | Z1 |
| UNKNOWN (18.06) | | | | | 0.24 | NJ | Z1 | | | |
| UNKNOWN (18.52) | | | | | 0.71 | NJ | Z1 | | | |
| UNKNOWN (19.7) | | | | | | | | 1.4 | NJ | Z1 |
| UNKNOWN (20.15) | | | | | | | | 5.1 | NJ | Z1 |
| UNKNOWN (3.16) | | 0.43 | NJ | Z1 | | | | | | |
| UNKNOWN (3.22) | | | | | 1.3 | NJ | Z1 | | | |
| UNKNOWN ALKANE | | 0.64 | NJ | Z1 | 0.29 | NJ | Z1 | | | |
| UNKNOWN ALKANE (19.08) | | | | | | | | 0.86 | NJ | Z1 |
| UNKNOWN ALKANE (19.44) | | | | | | | | 0.65 | NJ | Z1 |

| PROJ_NO: 03634 | NSAMPLE | SG07-012012 | | | SG08-012012 | | | SG09-012012 | | | SG10-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-022A | | | C1201051-018A | | | C1201051-012A | | | C1201051-002A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1] | | | | | | | | | | | | | |
| .ALPHA.-PINENE | | | | | | | | 2.5 | NJ | Z1 | | | |
| 1,3-BUTADIENE, 2-METHYL- | | | | | | | | | | | | | |
| 1,3-CYCLOHEXADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE, 1-METHYL- $$ | | | | | | | | | | | | | |
| 1,3-OCTADIENE | | | | | | | | | | | | | |
| 1-HEPTENE | | | | | | | | | | | | | |
| 1H-INDENE, 2,3-DIHYDRO-4-METHYL- | | | | | | | | | | | | | |
| 1-OCTENE, 6-METHYL- | | | | | | | | | | | | | |
| 1-PENTENE | | | | | | | | | | | | | |
| 1-PENTENE, 2-METHYL- | | | | | 2.3 | NJ | Z1 | | | | | | |
| 1-PENTENE, 4-METHYL- | | | | | | | | | | | | | |
| 1-PROPENE, 2-METHYL- | | | | | 11 | NJ | Z1 | 15 | NJ | Z1 | | | |
| 1-PROPENE, 2-METHYL- (3.17) | | | | | | | | | | | | | |
| 2-BUTENE | | | | | | | | | | | | | |
| 2-BUTENE, 2-METHYL- | | | | | | | | | | | | | |
| 2-HEPTENE | | | | | | | | | | | | | |
| 2-PENTENE, (Z)- | | | | | | | | | | | | | |
| 3-CARENE | | | | | | | | | | | | | |
| 3-HEPTENE | | | | | | | | | | | | | |
| 4-CARENE | | | | | | | | | | | 1 | NJ | Z1 |
| ACETALDEHYDE | | | | | 12 | NJ | Z1 | | | | | | |
| ARSENOUS ACID, TRIS (TRIMETHYLSILYL | | | | | | | | | | | | | |
| BENZENE, (2-METHYL-2-PROPENYL)- | | | | | | | | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- | | | | | 2.3 | NJ | Z1 | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- (17.77) | | | | | | | | | | | | | |
| BENZENE, 1,2,4-TRIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2,3-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2,4-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- | | | | | 2.8 | NJ | Z1 | 1.6 | NJ | Z1 | 0.91 | NJ | Z1 |
| BENZENE, 1-ETHYL-2-METHYL- (16.81) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.82) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (17.11) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG1-012012 | | | SG11-011912 | | | SG12-011912 | | | SG13-012012 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-015A | | | C1201051-001A | | | C1201051-003A | | | C1201051-011A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1] | | | | | | | | 2.1 | NJ | Z1 | | | |
| .ALPHA.-PINENE | | | | | | | | | | | | | |
| 1,3-BUTADIENE, 2-METHYL- | | | | | | | | | | | | | |
| 1,3-CYCLOHEXADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE, 1-METHYL- $$ | | 3.5 | NJ | Z1 | | | | | | | | | |
| 1,3-OCTADIENE | | 7.4 | NJ | Z1 | | | | | | | | | |
| 1-HEPTENE | | | | | | | | | | | | | |
| 1H-INDENE, 2,3-DIHYDRO-4-METHYL- | | | | | | | | | | | | | |
| 1-OCTENE, 6-METHYL- | | | | | | | | 1.2 | NJ | Z1 | | | |
| 1-PENTENE | | | | | | | | | | | 1.9 | NJ | Z1 |
| 1-PENTENE, 2-METHYL- | | | | | | | | | | | | | |
| 1-PENTENE, 4-METHYL- | | | | | | | | | | | | | |
| 1-PROPENE, 2-METHYL- | | 17 | NJ | Z1 | | | | | | | | | |
| 1-PROPENE, 2-METHYL- (3.17) | | | | | | | | | | | 14 | NJ | Z1 |
| 2-BUTENE | | | | | | | | | | | | | |
| 2-BUTENE, 2-METHYL- | | | | | | | | | | | | | |
| 2-HEPTENE | | | | | | | | | | | | | |
| 2-PENTENE, (Z)- | | 3.6 | NJ | Z1 | | | | | | | | | |
| 3-CARENE | | | | | 1.6 | NJ | Z1 | | | | | | |
| 3-HEPTENE | | | | | | | | | | | | | |
| 4-CARENE | | | | | 0.6 | NJ | Z1 | | | | | | |
| ACETALDEHYDE | | | | | | | | | | | | | |
| ARSENOUS ACID, TRIS (TRIMETHYLSILYL | | | | | | | | | | | | | |
| BENZENE, (2-METHYL-2-PROPENYL)- | | | | | | | | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- (17.77) | | | | | 1.7 | NJ | Z1 | | | | | | |
| BENZENE, 1,2,4-TRIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | | | | | | | | 1.2 | NJ | Z1 | 1.4 | NJ | Z1 |
| BENZENE, 1-ETHYL-2,3-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2,4-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- | | | | | | | | 1.6 | NJ | Z1 | 2 | NJ | Z1 |
| BENZENE, 1-ETHYL-2-METHYL- (16.81) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.82) | | | | | 2 | NJ | Z1 | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (17.11) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG14-012012 | | | SG15-012012 | | | SG17-012012 | | | SG18-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-019A | | | C1201051-021A | | | C1201051-020A | | | C1201051-009A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1] | | | | | | | | | | | | | |
| .ALPHA.-PINENE | | | | | | | | | | | | | |
| 1,3-BUTADIENE, 2-METHYL- | | | | | | | | | | | | | |
| 1,3-CYCLOHEXADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE | | | | | | | | 6.1 | NJ | Z1 | | | |
| 1,3-CYCLOPENTADIENE, 1-METHYL- $$ | | | | | | | | | | | | | |
| 1,3-OCTADIENE | | | | | | | | | | | | | |
| 1-HEPTENE | | | | | | | | 2.4 | NJ | Z1 | | | |
| 1H-INDENE, 2,3-DIHYDRO-4-METHYL- | | | | | | | | | | | | | |
| 1-OCTENE, 6-METHYL- | | | | | | | | | | | | | |
| 1-PENTENE | | | | | | | | 3.1 | NJ | Z1 | | | |
| 1-PENTENE, 2-METHYL- | | | | | | | | | | | | | |
| 1-PENTENE, 4-METHYL- | | | | | | | | 2.5 | NJ | Z1 | | | |
| 1-PROPENE, 2-METHYL- | | 13 | NJ | Z1 | 12 | NJ | Z1 | | | | 12 | NJ | Z1 |
| 1-PROPENE, 2-METHYL- (3.17) | | | | | | | | 18 | NJ | Z1 | | | |
| 2-BUTENE | | | | | | | | | | | | | |
| 2-BUTENE, 2-METHYL- | | | | | | | | | | | | | |
| 2-HEPTENE | | | | | | | | | | | | | |
| 2-PENTENE, (Z)- | | | | | | | | | | | | | |
| 3-CARENE | | | | | | | | | | | | | |
| 3-HEPTENE | | | | | | | | | | | | | |
| 4-CARENE | | | | | | | | | | | | | |
| ACETALDEHYDE | | | | | | | | | | | | | |
| ARSENOUS ACID, TRIS (TRIMETHYLSILYL | | | | | | | | | | | 44 | NJ | Z1 |
| BENZENE, (2-METHYL-2-PROPENYL)- | | | | | | | | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- | | | | | 1.9 | NJ | Z1 | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- (17.77) | | | | | | | | | | | | | |
| BENZENE, 1,2,4-TRIMETHYL- | | | | | 1.8 | NJ | Z1 | | | | 1.6 | NJ | Z1 |
| BENZENE, 1,3,5-TRIMETHYL- | | 2.1 | NJ | Z1 | | | | | | | 1.6 | NJ | Z1 |
| BENZENE, 1-ETHYL-2,3-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2,4-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- | | 2.7 | NJ | Z1 | | | | 2.3 | NJ | Z1 | 2 | NJ | Z1 |
| BENZENE, 1-ETHYL-2-METHYL- (16.81) | | | | | 4.6 | NJ | Z1 | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.82) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (17.11) | | | | | 1.9 | NJ | Z1 | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG19-012012 | | | SG20-011912 | | | SG2-012012 | | | SG21-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-010A | | | C1201051-004A | | | C1201051-013A | | | C1201051-005A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1] | | | | | | | | | | | | | |
| .ALPHA.-PINENE | | | | | | | | | | | 2.5 | NJ | Z1 |
| 1,3-BUTADIENE, 2-METHYL- | | 3.7 | NJ | Z1 | | | | | | | | | |
| 1,3-CYCLOHEXADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE, 1-METHYL- $$ | | | | | | | | | | | | | |
| 1,3-OCTADIENE | | | | | | | | | | | | | |
| 1-HEPTENE | | | | | | | | | | | | | |
| 1H-INDENE, 2,3-DIHYDRO-4-METHYL- | | | | | 20 | NJ | Z1 | | | | | | |
| 1-OCTENE, 6-METHYL- | | | | | | | | | | | | | |
| 1-PENTENE | | 6.4 | NJ | Z1 | | | | | | | | | |
| 1-PENTENE, 2-METHYL- | | | | | | | | | | | | | |
| 1-PENTENE, 4-METHYL- | | | | | | | | | | | | | |
| 1-PROPENE, 2-METHYL- | | | | | 1 | NJ | Z1 | 18 | NJ | Z1 | | | |
| 1-PROPENE, 2-METHYL- (3.17) | | 24 | NJ | Z1 | | | | | | | | | |
| 2-BUTENE | | | | | | | | 2.6 | NJ | Z1 | | | |
| 2-BUTENE, 2-METHYL- | | | | | | | | | | | | | |
| 2-HEPTENE | | | | | | | | | | | | | |
| 2-PENTENE, (Z)- | | | | | | | | 3.2 | NJ | Z1 | | | |
| 3-CARENE | | | | | | | | | | | | | |
| 3-HEPTENE | | 3.3 | NJ | Z1 | | | | | | | | | |
| 4-CARENE | | | | | | | | | | | | | |
| ACETALDEHYDE | | | | | | | | | | | 8.1 | NJ | Z1 |
| ARSENOUS ACID, TRIS (TRIMETHYLSILYL | | | | | | | | | | | | | |
| BENZENE, (2-METHYL-2-PROPENYL)- | | | | | | | | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- | | | | | 1.1 | NJ | Z1 | | | | 1.5 | NJ | Z1 |
| BENZENE, 1,2,3-TRIMETHYL- (17.77) | | | | | | | | | | | | | |
| BENZENE, 1,2,4-TRIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | | | | | 0.99 | NJ | Z1 | | | | 2.2 | NJ | Z1 |
| BENZENE, 1-ETHYL-2,3-DIMETHYL- | | | | | | | | | | | 1.8 | NJ | Z1 |
| BENZENE, 1-ETHYL-2,4-DIMETHYL- | | | | | | | | | | | 1.8 | NJ | Z1 |
| BENZENE, 1-ETHYL-2-METHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.81) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.82) | | | | | 2.4 | NJ | Z1 | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (17.11) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG22-012012 | | | SG23-011912 | | | SG24-011912 | | | SG25-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-016A | | | C1201051-006A | | | C1201051-007A | | | C1201051-008A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1] | | | | | 1.8 | NJ | Z1 | 1.9 | NJ | Z1 | | | |
| .ALPHA.-PINENE | | | | | | | | | | | 0.67 | NJ | Z1 |
| 1,3-BUTADIENE, 2-METHYL- | | 2.8 | NJ | Z1 | | | | | | | | | |
| 1,3-CYCLOHEXADIENE | | 3.1 | NJ | Z1 | | | | | | | | | |
| 1,3-CYCLOPENTADIENE | | | | | | | | | | | | | |
| 1,3-CYCLOPENTADIENE, 1-METHYL- $$ | | | | | | | | | | | | | |
| 1,3-OCTADIENE | | | | | | | | | | | | | |
| 1-HEPTENE | | | | | | | | | | | | | |
| 1H-INDENE, 2,3-DIHYDRO-4-METHYL- | | | | | | | | | | | | | |
| 1-OCTENE, 6-METHYL- | | | | | | | | | | | | | |
| 1-PENTENE | | | | | | | | | | | | | |
| 1-PENTENE, 2-METHYL- | | 2.9 | NJ | Z1 | | | | | | | | | |
| 1-PENTENE, 4-METHYL- | | | | | | | | | | | | | |
| 1-PROPENE, 2-METHYL- | | 19 | NJ | Z1 | 6.8 | NJ | Z1 | | | | | | |
| 1-PROPENE, 2-METHYL- (3.17) | | | | | | | | | | | | | |
| 2-BUTENE | | | | | | | | | | | | | |
| 2-BUTENE, 2-METHYL- | | 4.8 | NJ | Z1 | | | | | | | | | |
| 2-HEPTENE | | 3 | NJ | Z1 | | | | | | | | | |
| 2-PENTENE, (Z)- | | 3.5 | NJ | Z1 | | | | | | | | | |
| 3-CARENE | | | | | | | | | | | | | |
| 3-HEPTENE | | | | | | | | | | | | | |
| 4-CARENE | | | | | | | | | | | | | |
| ACETALDEHYDE | | | | | | | | | | | 0.96 | NJ | Z1 |
| ARSENOUS ACID, TRIS (TRIMETHYLSILYL | | | | | | | | | | | | | |
| BENZENE, (2-METHYL-2-PROPENYL)- | | | | | 1.8 | NJ | Z1 | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- | | | | | 2.4 | NJ | Z1 | 2.4 | NJ | Z1 | | | |
| BENZENE, 1,2,3-TRIMETHYL- (17.77) | | | | | | | | | | | | | |
| BENZENE, 1,2,4-TRIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | | | | | 1.6 | NJ | Z1 | 1.6 | NJ | Z1 | | | |
| BENZENE, 1-ETHYL-2,3-DIMETHYL- | | | | | | | | 2.1 | NJ | Z1 | | | |
| BENZENE, 1-ETHYL-2,4-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- | | | | | 1.5 | NJ | Z1 | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.81) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.82) | | | | | | | | 3.8 | NJ | Z1 | | | |
| BENZENE, 1-ETHYL-2-METHYL- (17.11) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG4-012012 | | | TB-012012 | | |
|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-017A | | | C1201051-023A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | |
| | DUP_OF | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| (1R)-2,6,6-TRIMETHYLBICYCLO[3.1.1] | | | | | | | |
| .ALPHA.-PINENE | | | | | | | |
| 1,3-BUTADIENE, 2-METHYL- | | | | | | | |
| 1,3-CYCLOHEXADIENE | | | | | | | |
| 1,3-CYCLOPENTADIENE | | | | | | | |
| 1,3-CYCLOPENTADIENE, 1-METHYL- $$ | | | | | | | |
| 1,3-OCTADIENE | | | | | | | |
| 1-HEPTENE | | | | | | | |
| 1H-INDENE, 2,3-DIHYDRO-4-METHYL- | | | | | | | |
| 1-OCTENE, 6-METHYL- | | | | | | | |
| 1-PENTENE | | | | | | | |
| 1-PENTENE, 2-METHYL- | | | | | | | |
| 1-PENTENE, 4-METHYL- | | | | | | | |
| 1-PROPENE, 2-METHYL- | | | | | | | |
| 1-PROPENE, 2-METHYL- (3.17) | | | | | | | |
| 2-BUTENE | | | | | | | |
| 2-BUTENE, 2-METHYL- | | | | | | | |
| 2-HEPTENE | | | | | | | |
| 2-PENTENE, (Z)- | | | | | | | |
| 3-CARENE | | | | | | | |
| 3-HEPTENE | | | | | | | |
| 4-CARENE | | | | | | | |
| ACETALDEHYDE | | | | | | | |
| ARSENOUS ACID, TRIS (TRIMETHYLSILYL | | | | | | | |
| BENZENE, (2-METHYL-2-PROPENYL)- | | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- | | | | | | | |
| BENZENE, 1,2,3-TRIMETHYL- (17.77) | | | | | | | |
| BENZENE, 1,2,4-TRIMETHYL- | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | | | | | | | |
| BENZENE, 1-ETHYL-2,3-DIMETHYL- | | | | | | | |
| BENZENE, 1-ETHYL-2,4-DIMETHYL- | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.81) | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (16.82) | | | | | | | |
| BENZENE, 1-ETHYL-2-METHYL- (17.11) | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG07-012012 | | | SG08-012012 | | | SG09-012012 | | | SG10-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-022A | | | C1201051-018A | | | C1201051-012A | | | C1201051-002A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE, 1-ETHYL-2-METHYL- (17.12) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-3-METHYL- | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-2-(1-METHYLETHYL | | | | | 3 | NJ | Z1 | | | | | | |
| BENZENE, 1-METHYL-3-(1-METHYLETHYL | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLETHYL | | | | | 3.2 | NJ | Z1 | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLPROPY | | | | | | | | | | | | | |
| BENZENE, 2-ETHYL-1,4-DIMETHYL- | | 1.6 | NJ | Z1 | | | | | | | | | |
| BENZENE, 4-ETHYL-1,2-DIMETHYL- | | 2.2 | NJ | Z1 | | | | | | | 0.78 | NJ | Z1 |
| BENZOIC ACID, 2-[(TRIMETHYLSILYL)O | | | | | 3.5 | NJ | Z1 | | | | | | |
| BUTANAL, 3-METHYL- | | | | | 3 | NJ | Z1 | 2.8 | NJ | Z1 | | | |
| BUTANE | | 5.2 | NJ | Z1 | 5.7 | NJ | Z1 | 4.1 | NJ | Z1 | 0.94 | NJ | Z1 |
| BUTANE, 2,2,3,3-TETRAMETHYL- | | | | | | | | 7.1 | NJ | Z1 | | | |
| BUTANE, 2,2,3,3-TETRAMETHYL- $$ ET | | | | | | | | | | | | | |
| BUTANE, 2,3-DIMETHYL- | | | | | | | | | | | | | |
| BUTANE, 2-METHYL- | | 2.5 | NJ | Z1 | 2.4 | NJ | Z1 | 1.6 | NJ | Z1 | | | |
| BUTANE, 2-METHYL- (4.26) | | | | | | | | | | | | | |
| COBALT, (2-METHYL-.ETA.-3-PROPENYL | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1,3-TRIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1-DIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,3-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1-ETHYL-4-METHYL-, TR | | | | | | | | | | | | | |
| CYCLOHEXANE, METHYL- | | 6.7 | NJ | Z1 | 2.8 | NJ | Z1 | 2.5 | NJ | Z1 | 1.9 | NJ | Z1 |
| CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | 0.78 | NJ | Z1 |
| CYCLOPENTANE, METHYL- | | | | | | | | | | | 0.75 | NJ | Z1 |
| CYCLOPROPANE, 1,2-DIMETHYL-, CIS- | | | | | | | | 1.8 | NJ | Z1 | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, TRANS | | | | | | | | | | | | | |
| CYCLOPROPANE, ETHYLIDENE- | | | | | | | | | | | | | |
| CYCLOTRISILOXANE, HEXAMETHYL- | | 4.7 | R | Z2 | | | | 9.7 | R | Z2 | 5 | R | Z2 |
| D-LIMONENE | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG1-012012 | | | SG11-011912 | | | SG12-011912 | | | SG13-012012 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-015A | | | C1201051-001A | | | C1201051-003A | | | C1201051-011A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE, 1-ETHYL-2-METHYL- (17.12) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-3-METHYL- | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-2-(1-METHYLETHYL | | | | | | | | | | | 1.5 | NJ | Z1 |
| BENZENE, 1-METHYL-3-(1-METHYLETHYL | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLETHYL | | | | | 0.83 | NJ | Z1 | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLPROPY | | | | | | | | | | | | | |
| BENZENE, 2-ETHYL-1,4-DIMETHYL- | | | | | | | | 1.3 | NJ | Z1 | | | |
| BENZENE, 4-ETHYL-1,2-DIMETHYL- | | | | | 0.75 | NJ | Z1 | | | | | | |
| BENZOIC ACID, 2-[(TRIMETHYLSILYL)O | | | | | | | | | | | | | |
| BUTANAL, 3-METHYL- | | | | | | | | | | | | | |
| BUTANE | | 7.6 | NJ | Z1 | | | | | | | 4.7 | NJ | Z1 |
| BUTANE, 2,2,3,3-TETRAMETHYL- | | | | | 0.98 | NJ | Z1 | 6.3 | NJ | Z1 | | | |
| BUTANE, 2,2,3,3-TETRAMETHYL- $$ ET | | | | | | | | | | | | | |
| BUTANE, 2,3-DIMETHYL- | | | | | | | | | | | | | |
| BUTANE, 2-METHYL- | | 2.5 | NJ | Z1 | | | | | | | | | |
| BUTANE, 2-METHYL- (4.26) | | | | | | | | | | | | | |
| COBALT, (2-METHYL-.ETA.-3-PROPENYL | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1,3-TRIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1-DIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,3-TRIMETHYL-, (1. | | | | | 0.55 | NJ | Z1 | | | | | | |
| CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | | | | | | | | 1.4 | NJ | Z1 | | | |
| CYCLOHEXANE, 1-ETHYL-4-METHYL-, TR | | | | | 0.58 | NJ | Z1 | | | | | | |
| CYCLOHEXANE, METHYL- | | | | | 0.76 | NJ | Z1 | 2.3 | NJ | Z1 | 1.7 | NJ | Z1 |
| CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPENTANE, METHYL- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, TRANS | | | | | | | | | | | | | |
| CYCLOPROPANE, ETHYLIDENE- | | 2.6 | NJ | Z1 | | | | | | | | | |
| CYCLOTRISILOXANE, HEXAMETHYL- | | 2.6 | R | Z2 | 3.9 | R | Z2 | 8.7 | R | Z2 | 7.9 | R | Z2 |
| D-LIMONENE | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG14-012012 | | | SG15-012012 | | | SG17-012012 | | | SG18-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-019A | | | C1201051-021A | | | C1201051-020A | | | C1201051-009A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE, 1-ETHYL-2-METHYL- (17.12) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-3-METHYL- | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-2-(1-METHYLETHYL | | 3.1 | NJ | Z1 | | | | | | | | | |
| BENZENE, 1-METHYL-3-(1-METHYLETHYL | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLETHYL | | 3.8 | NJ | Z1 | | | | | | | 1.5 | NJ | Z1 |
| BENZENE, 1-METHYL-4-(1-METHYLPROPY | | | | | | | | | | | | | |
| BENZENE, 2-ETHYL-1,4-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 4-ETHYL-1,2-DIMETHYL- | | | | | | | | | | | 1.8 | NJ | Z1 |
| BENZOIC ACID, 2-[(TRIMETHYLSILYL)O | | | | | | | | 2.8 | NJ | Z1 | | | |
| BUTANAL, 3-METHYL- | | | | | | | | 4.2 | NJ | Z1 | | | |
| BUTANE | | 6.4 | NJ | Z1 | 3.8 | NJ | Z1 | 5.8 | NJ | Z1 | 2.6 | NJ | Z1 |
| BUTANE, 2,2,3,3-TETRAMETHYL- | | | | | 6.4 | NJ | Z1 | | | | 6.6 | NJ | Z1 |
| BUTANE, 2,2,3,3-TETRAMETHYL- $$ ET | | | | | | | | | | | | | |
| BUTANE, 2,3-DIMETHYL- | | | | | | | | | | | | | |
| BUTANE, 2-METHYL- | | 2 | NJ | Z1 | | | | | | | | | |
| BUTANE, 2-METHYL- (4.26) | | | | | | | | | | | | | |
| COBALT, (2-METHYL-.ETA.-3-PROPENYL | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1,3-TRIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1-DIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,3-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1-ETHYL-4-METHYL-, TR | | | | | | | | | | | | | |
| CYCLOHEXANE, METHYL- | | 2.2 | NJ | Z1 | 3 | NJ | Z1 | 2.7 | NJ | Z1 | 1.9 | NJ | Z1 |
| CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPENTANE, METHYL- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, TRANS | | | | | | | | | | | | | |
| CYCLOPROPANE, ETHYLIDENE- | | | | | | | | | | | | | |
| CYCLOTRISILOXANE, HEXAMETHYL- | | 11 | R | Z2 | 4.2 | R | Z2 | 6.2 | R | Z2 | | | |
| D-LIMONENE | | | | | | | | 2.4 | NJ | Z1 | | | |

| PROJ_NO: 03634 | NSAMPLE | SG19-012012 | | | SG20-011912 | | | SG2-012012 | | | SG21-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-010A | | | C1201051-004A | | | C1201051-013A | | | C1201051-005A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE, 1-ETHYL-2-METHYL- (17.12) | | | | | | | | | | | 3.4 | NJ | Z1 |
| BENZENE, 1-ETHYL-3-METHYL- | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-2-(1-METHYLETHYL | | | | | 1.1 | NJ | Z1 | | | | | | |
| BENZENE, 1-METHYL-3-(1-METHYLETHYL | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLETHYL | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLPROPY | | | | | | | | | | | | | |
| BENZENE, 2-ETHYL-1,4-DIMETHYL- | | | | | 1.2 | NJ | Z1 | | | | | | |
| BENZENE, 4-ETHYL-1,2-DIMETHYL- | | | | | | | | | | | | | |
| BENZOIC ACID, 2-[(TRIMETHYLSILYL)O | | | | | | | | | | | | | |
| BUTANAL, 3-METHYL- | | | | | | | | | | | | | |
| BUTANE | | 10 | NJ | Z1 | | | | 8.6 | NJ | Z1 | 1.3 | NJ | Z1 |
| BUTANE, 2,2,3,3-TETRAMETHYL- | | 14 | NJ | Z1 | | | | | | | | | |
| BUTANE, 2,2,3,3-TETRAMETHYL- $$ ET | | | | | | | | 3.7 | NJ | Z1 | | | |
| BUTANE, 2,3-DIMETHYL- | | | | | | | | | | | | | |
| BUTANE, 2-METHYL- | | | | | | | | 2.6 | NJ | Z1 | | | |
| BUTANE, 2-METHYL- (4.26) | | | | | | | | | | | | | |
| COBALT, (2-METHYL-.ETA.-3-PROPENYL | | | | | | | | | | | 4.4 | NJ | Z1 |
| CYCLOHEXANE, 1,1,3-TRIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1-DIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,3-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1-ETHYL-4-METHYL-, TR | | | | | | | | | | | | | |
| CYCLOHEXANE, METHYL- | | 4.3 | NJ | Z1 | 1.8 | NJ | Z1 | | | | 2 | NJ | Z1 |
| CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPENTANE, METHYL- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, TRANS | | | | | | | | | | | | | |
| CYCLOPROPANE, ETHYLIDENE- | | | | | | | | | | | | | |
| CYCLOTRISILOXANE, HEXAMETHYL- | | 16 | R | Z2 | 3.1 | R | Z2 | 4.2 | R | Z2 | 5.3 | R | Z2 |
| D-LIMONENE | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG22-012012 | | | SG23-011912 | | | SG24-011912 | | | SG25-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-016A | | | C1201051-006A | | | C1201051-007A | | | C1201051-008A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE, 1-ETHYL-2-METHYL- (17.12) | | | | | | | | | | | | | |
| BENZENE, 1-ETHYL-3-METHYL- | | | | | 2.2 | NJ | Z1 | | | | | | |
| BENZENE, 1-METHYL-2-(1-METHYLETHYL | | | | | 1.1 | NJ | Z1 | 1.6 | NJ | Z1 | | | |
| BENZENE, 1-METHYL-3-(1-METHYLETHYL | | | | | 1.8 | NJ | Z1 | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLETHYL | | | | | | | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLPROPY | | | | | | | | 1.2 | NJ | Z1 | | | |
| BENZENE, 2-ETHYL-1,4-DIMETHYL- | | | | | | | | | | | | | |
| BENZENE, 4-ETHYL-1,2-DIMETHYL- | | | | | 2 | NJ | Z1 | | | | | | |
| BENZOIC ACID, 2-[(TRIMETHYLSILYL)O | | | | | | | | | | | 1.1 | NJ | Z1 |
| BUTANAL, 3-METHYL- | | | | | | | | 1.2 | NJ | Z1 | | | |
| BUTANE | | 8.4 | NJ | Z1 | 11 | NJ | Z1 | | | | 2.2 | NJ | Z1 |
| BUTANE, 2,2,3,3-TETRAMETHYL- | | | | | | | | | | | 0.62 | NJ | Z1 |
| BUTANE, 2,2,3,3-TETRAMETHYL- $$ ET | | | | | | | | | | | | | |
| BUTANE, 2,3-DIMETHYL- | | | | | | | | | | | 1 | NJ | Z1 |
| BUTANE, 2-METHYL- | | 3 | NJ | Z1 | 2.1 | NJ | Z1 | | | | 6.3 | NJ | Z1 |
| BUTANE, 2-METHYL- (4.26) | | | | | | | | | | | | | |
| COBALT, (2-METHYL-.ETA.-3-PROPENYL | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1,3-TRIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,1-DIMETHYL- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,3-TRIMETHYL-, (1. | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1. | | | | | | | | | | | 0.72 | NJ | Z1 |
| CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | | | | | | | | | | | | | |
| CYCLOHEXANE, 1-ETHYL-4-METHYL-, TR | | | | | | | | | | | | | |
| CYCLOHEXANE, METHYL- | | | | | 1.6 | NJ | Z1 | 1.8 | NJ | Z1 | 0.77 | NJ | Z1 |
| CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPENTANE, METHYL- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, CIS- | | | | | | | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, TRANS | | | | | | | | | | | | | |
| CYCLOPROPANE, ETHYLIDENE- | | | | | | | | | | | | | |
| CYCLOTRISILOXANE, HEXAMETHYL- | | 3.5 | R | Z2 | 5.2 | R | Z2 | 3.6 | R | Z2 | 3.8 | R | Z2 |
| D-LIMONENE | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG4-012012 | | | TB-012012 | | |
|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-017A | | | C1201051-023A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | |
| | DUP_OF | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE, 1-ETHYL-2-METHYL- (17.12) | | | | | | | |
| BENZENE, 1-ETHYL-3-METHYL- | | | | | | | |
| BENZENE, 1-METHYL-2-(1-METHYLETHYL | | | | | | | |
| BENZENE, 1-METHYL-3-(1-METHYLETHYL | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLETHYL | | | | | | | |
| BENZENE, 1-METHYL-4-(1-METHYLPROPY | | | | | | | |
| BENZENE, 2-ETHYL-1,4-DIMETHYL- | | | | | | | |
| BENZENE, 4-ETHYL-1,2-DIMETHYL- | | | | | | | |
| BENZOIC ACID, 2-[(TRIMETHYLSILYL)O | | | | | | | |
| BUTANAL, 3-METHYL- | | | | | | | |
| BUTANE | | 9.5 | NJ | Z1 | | | |
| BUTANE, 2,2,3,3-TETRAMETHYL- | | | | | | | |
| BUTANE, 2,2,3,3-TETRAMETHYL- $$ ET | | | | | | | |
| BUTANE, 2,3-DIMETHYL- | | 4.8 | NJ | Z1 | | | |
| BUTANE, 2-METHYL- | | | | | | | |
| BUTANE, 2-METHYL- (4.26) | | 11 | NJ | Z1 | | | |
| COBALT, (2-METHYL-.ETA.-3-PROPENYL | | | | | | | |
| CYCLOHEXANE, 1,1,3-TRIMETHYL- | | 5.1 | NJ | Z1 | | | |
| CYCLOHEXANE, 1,1-DIMETHYL- | | 4.8 | NJ | Z1 | | | |
| CYCLOHEXANE, 1,2,3-TRIMETHYL-, (1. | | | | | | | |
| CYCLOHEXANE, 1,2,4-TRIMETHYL-, (1. | | | | | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, CIS- | | 4.4 | NJ | Z1 | | | |
| CYCLOHEXANE, 1,3-DIMETHYL-, TRANS- | | | | | | | |
| CYCLOHEXANE, 1-ETHYL-4-METHYL-, TR | | | | | | | |
| CYCLOHEXANE, METHYL- | | | | | | | |
| CYCLOPENTANE, 1,3-DIMETHYL-, CIS- | | | | | | | |
| CYCLOPENTANE, METHYL- | | 4.2 | NJ | Z1 | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, CIS- | | | | | | | |
| CYCLOPROPANE, 1,2-DIMETHYL-, TRANS | | 3.6 | NJ | Z1 | | | |
| CYCLOPROPANE, ETHYLIDENE- | | | | | | | |
| CYCLOTRISILOXANE, HEXAMETHYL- | | 6.5 | R | Z2 | 0.24 | R | Z2 |
| D-LIMONENE | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG07-012012 | | | SG08-012012 | | | SG09-012012 | | | SG10-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-022A | | | C1201051-018A | | | C1201051-012A | | | C1201051-002A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| HEXANAL | | | | | | | | | | | | | |
| HEXANE, 2,2-DIMETHYL- | | 7.7 | NJ | Z1 | 7.4 | NJ | Z1 | | | | | | |
| HEXANE, 2,3,4-TRIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 2,4-DIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 3-METHYL- | | 3.6 | NJ | Z1 | | | | 2.4 | NJ | Z1 | 0.89 | NJ | Z1 |
| INDAN, 1-METHYL- | | | | | | | | | | | | | |
| ISOBUTANE | | 2 | NJ | Z1 | | | | | | | | | |
| LIMONENE | | | | | | | | 1.8 | NJ | Z1 | 1 | NJ | Z1 |
| METHALLYL CYANIDE | | 4 | NJ | Z1 | | | | | | | | | |
| PENTANAL | | | | | | | | | | | | | |
| PENTANE | | | | | 2.7 | NJ | Z1 | 1.6 | NJ | Z1 | | | |
| PENTANE, 2,2,4-TRIMETHYL- | | | | | | | | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- | | | | | 4.2 | NJ | Z1 | 5.3 | NJ | Z1 | | | |
| PENTANE, 2,3,3-TRIMETHYL- $$ 2,3,3 | | | | | | | | | | | | | |
| PENTANE, 2,3,4-TRIMETHYL- | | | | | 2.7 | NJ | Z1 | 3.1 | NJ | Z1 | | | |
| PENTANE, 2,3-DIMETHYL- | | 1.9 | NJ | Z1 | | | | | | | 4.2 | NJ | Z1 |
| PENTANE, 2-METHYL- | | 2.4 | NJ | Z1 | | | | | | | 0.81 | NJ | Z1 |
| PENTANE, 3-METHYL- | | 1.7 | NJ | Z1 | | | | | | | | | |
| PROPANAL, 2-METHYL- | | | | | | | | | | | | | |
| PROPANENITRILE, 3-METHOXY- | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-(TRIMETH | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-BIS(TRIM | | | | | | | | | | | 0.87 | NJ | Z1 |
| SILANOL, TRIMETHYL- | | | | | | | | | | | | | |
| UNKNOWN | | | | | | | | | | | | | |
| UNKNOWN (10.09) | | | | | | | | 1.9 | NJ | Z1 | | | |
| UNKNOWN (10.4) | | | | | | | | | | | | | |
| UNKNOWN (10.41) | | 3.3 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (12.25) | | 2.7 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (12.88) | | | | | | | | | | | | | |
| UNKNOWN (16.43) | | | | | | | | | | | | | |
| UNKNOWN (16.44) | | | | | | | | | | | | | |
| UNKNOWN (16.71) | | | | | 6.2 | NJ | Z1 | 6.3 | NJ | Z1 | 21 | NJ | Z1 |
| UNKNOWN (16.72) | | | | | | | | | | | | | |
| UNKNOWN (18.64) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG1-012012 | | | SG11-011912 | | | SG12-011912 | | | SG13-012012 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-015A | | | C1201051-001A | | | C1201051-003A | | | C1201051-011A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| HEXANAL | | 2.9 | NJ | Z1 | | | | | | | | | |
| HEXANE, 2,2-DIMETHYL- | | | | | | | | | | | 5.5 | NJ | Z1 |
| HEXANE, 2,3,4-TRIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 2,4-DIMETHYL- | | | | | | | | 1.2 | NJ | Z1 | | | |
| HEXANE, 3-METHYL- | | | | | | | | | | | | | |
| INDAN, 1-METHYL- | | | | | | | | | | | | | |
| ISOBUTANE | | 2.7 | NJ | Z1 | | | | | | | 1.9 | NJ | Z1 |
| LIMONENE | | | | | | | | | | | | | |
| METHALLYL CYANIDE | | | | | | | | | | | | | |
| PENTANAL | | | | | | | | | | | | | |
| PENTANE | | | | | | | | | | | | | |
| PENTANE, 2,2,4-TRIMETHYL- | | | | | | | | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- | | | | | | | | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- $$ 2,3,3 | | | | | | | | | | | | | |
| PENTANE, 2,3,4-TRIMETHYL- | | | | | | | | 1.8 | NJ | Z1 | 2.1 | NJ | Z1 |
| PENTANE, 2,3-DIMETHYL- | | | | | | | | 3.1 | NJ | Z1 | | | |
| PENTANE, 2-METHYL- | | 2.5 | NJ | Z1 | | | | 1.2 | NJ | Z1 | | | |
| PENTANE, 3-METHYL- | | | | | | | | | | | | | |
| PROPANAL, 2-METHYL- | | 3.7 | NJ | Z1 | | | | | | | | | |
| PROPANENITRILE, 3-METHOXY- | | | | | 0.61 | NJ | Z1 | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-(TRIMETH | | | | | | | | 1.5 | NJ | Z1 | | | |
| P-TRIMETHYLSILYLOXYPHENYL-BIS(TRIM | | | | | | | | | | | | | |
| SILANOL, TRIMETHYL- | | | | | 1.2 | R | Z2 | | | | | | |
| UNKNOWN | | | | | 6.8 | NJ | Z1 | | | | | | |
| UNKNOWN (10.09) | | | | | | | | | | | | | |
| UNKNOWN (10.4) | | 7 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (10.41) | | | | | | | | | | | 2 | NJ | Z1 |
| UNKNOWN (12.25) | | | | | | | | | | | | | |
| UNKNOWN (12.88) | | | | | | | | | | | | | |
| UNKNOWN (16.43) | | | | | | | | | | | 2.8 | NJ | Z1 |
| UNKNOWN (16.44) | | | | | | | | | | | | | |
| UNKNOWN (16.71) | | 3.4 | NJ | Z1 | | | | 6.3 | NJ | Z1 | 12 | NJ | Z1 |
| UNKNOWN (16.72) | | | | | | | | | | | | | |
| UNKNOWN (18.64) | | | | | | | | | | | 5.3 | NJ | Z1 |

| PROJ_NO: 03634 | NSAMPLE | SG14-012012 | | | SG15-012012 | | | SG17-012012 | | | SG18-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-019A | | | C1201051-021A | | | C1201051-020A | | | C1201051-009A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| HEXANAL | | | | | | | | | | | | | |
| HEXANE, 2,2-DIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 2,3,4-TRIMETHYL- | | | | | | | | 3.9 | NJ | Z1 | | | |
| HEXANE, 2,4-DIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 3-METHYL- | | | | | 2 | NJ | Z1 | | | | | | |
| INDAN, 1-METHYL- | | 2.4 | NJ | Z1 | | | | | | | | | |
| ISOBUTANE | | 2.3 | NJ | Z1 | | | | 2.6 | NJ | Z1 | | | |
| LIMONENE | | | | | | | | | | | | | |
| METHALLYL CYANIDE | | | | | 2.4 | NJ | Z1 | | | | | | |
| PENTANAL | | | | | | | | | | | 2.7 | NJ | Z1 |
| PENTANE | | 2.7 | NJ | Z1 | 1.9 | NJ | Z1 | | | | | | |
| PENTANE, 2,2,4-TRIMETHYL- | | 5.5 | NJ | Z1 | | | | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- | | | | | 3 | NJ | Z1 | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- $$ 2,3,3 | | | | | | | | | | | | | |
| PENTANE, 2,3,4-TRIMETHYL- | | 2.3 | NJ | Z1 | 2.5 | NJ | Z1 | | | | | | |
| PENTANE, 2,3-DIMETHYL- | | | | | | | | | | | 1.5 | NJ | Z1 |
| PENTANE, 2-METHYL- | | | | | | | | 2.5 | NJ | Z1 | | | |
| PENTANE, 3-METHYL- | | | | | | | | | | | | | |
| PROPANAL, 2-METHYL- | | | | | | | | | | | | | |
| PROPANENITRILE, 3-METHOXY- | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-(TRIMETH | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-BIS(TRIM | | | | | | | | | | | | | |
| SILANOL, TRIMETHYL- | | | | | | | | | | | | | |
| UNKNOWN | | | | | | | | | | | 4.6 | NJ | Z1 |
| UNKNOWN (10.09) | | | | | | | | | | | | | |
| UNKNOWN (10.4) | | | | | | | | | | | | | |
| UNKNOWN (10.41) | | 2.6 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (12.25) | | | | | | | | 2.5 | NJ | Z1 | | | |
| UNKNOWN (12.88) | | | | | | | | | | | | | |
| UNKNOWN (16.43) | | | | | 2 | NJ | Z1 | | | | | | |
| UNKNOWN (16.44) | | | | | | | | | | | | | |
| UNKNOWN (16.71) | | 8.7 | NJ | Z1 | 4.6 | NJ | Z1 | 23 | NJ | Z1 | | | |
| UNKNOWN (16.72) | | | | | | | | | | | | | |
| UNKNOWN (18.64) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG19-012012 | | | SG20-011912 | | | SG2-012012 | | | SG21-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-010A | | | C1201051-004A | | | C1201051-013A | | | C1201051-005A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| HEXANAL | | | | | | | | 4 | NJ | Z1 | | | |
| HEXANE, 2,2-DIMETHYL- | | | | | 4.8 | NJ | Z1 | | | | 5.6 | NJ | Z1 |
| HEXANE, 2,3,4-TRIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 2,4-DIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 3-METHYL- | | | | | 0.83 | NJ | Z1 | | | | | | |
| INDAN, 1-METHYL- | | | | | | | | | | | 1.8 | NJ | Z1 |
| ISOBUTANE | | 3 | NJ | Z1 | | | | 3 | NJ | Z1 | | | |
| LIMONENE | | | | | | | | | | | | | |
| METHALLYL CYANIDE | | | | | | | | | | | | | |
| PENTANAL | | | | | | | | 3.4 | NJ | Z1 | | | |
| PENTANE | | | | | | | | | | | | | |
| PENTANE, 2,2,4-TRIMETHYL- | | | | | | | | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- | | | | | 2.5 | NJ | Z1 | | | | 3 | NJ | Z1 |
| PENTANE, 2,3,3-TRIMETHYL- $$ 2,3,3 | | | | | | | | | | | | | |
| PENTANE, 2,3,4-TRIMETHYL- | | 4.9 | NJ | Z1 | 2.1 | NJ | Z1 | | | | | | |
| PENTANE, 2,3-DIMETHYL- | | | | | 0.82 | NJ | Z1 | | | | | | |
| PENTANE, 2-METHYL- | | 3.6 | NJ | Z1 | 1.8 | NJ | Z1 | 2.4 | NJ | Z1 | | | |
| PENTANE, 3-METHYL- | | | | | | | | | | | | | |
| PROPANAL, 2-METHYL- | | | | | | | | 2.3 | NJ | Z1 | | | |
| PROPANENITRILE, 3-METHOXY- | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-(TRIMETH | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-BIS(TRIM | | | | | | | | | | | | | |
| SILANOL, TRIMETHYL- | | | | | | | | | | | | | |
| UNKNOWN | | | | | | | | | | | | | |
| UNKNOWN (10.09) | | | | | | | | | | | | | |
| UNKNOWN (10.4) | | | | | | | | | | | | | |
| UNKNOWN (10.41) | | | | | | | | | | | 1.2 | NJ | Z1 |
| UNKNOWN (12.25) | | | | | | | | | | | | | |
| UNKNOWN (12.88) | | | | | | | | 1.9 | NJ | Z1 | | | |
| UNKNOWN (16.43) | | 2.9 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (16.44) | | | | | 2.2 | NJ | Z1 | | | | | | |
| UNKNOWN (16.71) | | | | | | | | 5.6 | NJ | Z1 | | | |
| UNKNOWN (16.72) | | | | | 3.8 | NJ | Z1 | | | | | | |
| UNKNOWN (18.64) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG22-012012 | | | SG23-011912 | | | SG24-011912 | | | SG25-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-016A | | | C1201051-006A | | | C1201051-007A | | | C1201051-008A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| HEXANAL | | | | | | | | | | | | | |
| HEXANE, 2,2-DIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 2,3,4-TRIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 2,4-DIMETHYL- | | | | | | | | | | | | | |
| HEXANE, 3-METHYL- | | | | | | | | | | | | | |
| INDAN, 1-METHYL- | | | | | | | | 1.6 | NJ | Z1 | | | |
| ISOBUTANE | | | | | | | | | | | 3 | NJ | Z1 |
| LIMONENE | | | | | | | | | | | 3 | NJ | Z1 |
| METHALLYL CYANIDE | | 9.2 | NJ | Z1 | | | | | | | | | |
| PENTANAL | | | | | | | | | | | | | |
| PENTANE | | 3.1 | NJ | Z1 | | | | | | | | | |
| PENTANE, 2,2,4-TRIMETHYL- | | | | | 3.4 | NJ | Z1 | 4.9 | NJ | Z1 | | | |
| PENTANE, 2,3,3-TRIMETHYL- | | | | | 2.5 | NJ | Z1 | 2.9 | NJ | Z1 | | | |
| PENTANE, 2,3,3-TRIMETHYL- $$ 2,3,3 | | | | | | | | | | | | | |
| PENTANE, 2,3,4-TRIMETHYL- | | | | | 1.8 | NJ | Z1 | 2.1 | NJ | Z1 | | | |
| PENTANE, 2,3-DIMETHYL- | | | | | | | | | | | | | |
| PENTANE, 2-METHYL- | | | | | 2.1 | NJ | Z1 | 1.5 | NJ | Z1 | | | |
| PENTANE, 3-METHYL- | | | | | | | | | | | 1.1 | NJ | Z1 |
| PROPANAL, 2-METHYL- | | | | | | | | | | | | | |
| PROPANENITRILE, 3-METHOXY- | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-(TRIMETH | | | | | | | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-BIS(TRIM | | | | | | | | | | | | | |
| SILANOL, TRIMETHYL- | | | | | | | | | | | | | |
| UNKNOWN | | | | | | | | | | | | | |
| UNKNOWN (10.09) | | | | | | | | | | | | | |
| UNKNOWN (10.4) | | | | | | | | | | | | | |
| UNKNOWN (10.41) | | 4.8 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (12.25) | | | | | | | | | | | | | |
| UNKNOWN (12.88) | | | | | | | | | | | | | |
| UNKNOWN (16.43) | | | | | | | | | | | | | |
| UNKNOWN (16.44) | | | | | | | | | | | | | |
| UNKNOWN (16.71) | | | | | | | | 3.2 | NJ | Z1 | 4.8 | NJ | Z1 |
| UNKNOWN (16.72) | | | | | | | | | | | | | |
| UNKNOWN (18.64) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG4-012012 | | | TB-012012 | | |
|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-017A | | | C1201051-023A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | |
| | DUP_OF | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| HEXANAL | | | | | | | |
| HEXANE, 2,2-DIMETHYL- | | 5 | NJ | Z1 | | | |
| HEXANE, 2,3,4-TRIMETHYL- | | | | | | | |
| HEXANE, 2,4-DIMETHYL- | | | | | | | |
| HEXANE, 3-METHYL- | | | | | | | |
| INDAN, 1-METHYL- | | | | | | | |
| ISOBUTANE | | 9.8 | NJ | Z1 | | | |
| LIMONENE | | | | | | | |
| METHALLYL CYANIDE | | | | | | | |
| PENTANAL | | | | | | | |
| PENTANE | | 4.9 | NJ | Z1 | | | |
| PENTANE, 2,2,4-TRIMETHYL- | | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- | | | | | | | |
| PENTANE, 2,3,3-TRIMETHYL- $$ 2,3,3 | | 8.5 | NJ | Z1 | | | |
| PENTANE, 2,3,4-TRIMETHYL- | | | | | | | |
| PENTANE, 2,3-DIMETHYL- | | | | | | | |
| PENTANE, 2-METHYL- | | 13 | NJ | Z1 | | | |
| PENTANE, 3-METHYL- | | 6.8 | NJ | Z1 | | | |
| PROPANAL, 2-METHYL- | | | | | | | |
| PROPANENITRILE, 3-METHOXY- | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-(TRIMETH | | | | | | | |
| P-TRIMETHYLSILYLOXYPHENYL-BIS(TRIM | | | | | | | |
| SILANOL, TRIMETHYL- | | | | | | | |
| UNKNOWN | | | | | | | |
| UNKNOWN (10.09) | | | | | | | |
| UNKNOWN (10.4) | | | | | | | |
| UNKNOWN (10.41) | | | | | | | |
| UNKNOWN (12.25) | | | | | | | |
| UNKNOWN (12.88) | | | | | | | |
| UNKNOWN (16.43) | | | | | | | |
| UNKNOWN (16.44) | | | | | | | |
| UNKNOWN (16.71) | | | | | | | |
| UNKNOWN (16.72) | | | | | | | |
| UNKNOWN (18.64) | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG07-012012 | | | SG08-012012 | | | SG09-012012 | | | SG10-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-022A | | | C1201051-018A | | | C1201051-012A | | | C1201051-002A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| UNKNOWN (18.68) | | | | | | | | | | | | | |
| UNKNOWN (18.69) | | | | | | | | | | | | | |
| UNKNOWN (2.92) | | | | | | | | | | | | | |
| UNKNOWN (2.93) | | 4.2 | NJ | Z1 | 4.3 | NJ | Z1 | | | | | | |
| UNKNOWN (3.17) | | | | | | | | | | | | | |
| UNKNOWN (3.18) | | | | | | | | | | | 1.4 | NJ | Z1 |
| UNKNOWN (3.22) | | | | | | | | | | | | | |
| UNKNOWN (3.39) | | | | | | | | | | | | | |
| UNKNOWN (3.87) | | | | | | | | | | | | | |
| UNKNOWN (3.91) | | | | | | | | | | | | | |
| UNKNOWN (4.19) | | | | | 2.5 | NJ | Z1 | | | | | | |
| UNKNOWN (4.2) | | | | | | | | | | | | | |
| UNKNOWN (4.23) | | | | | | | | | | | | | |
| UNKNOWN (5.08) | | | | | | | | | | | | | |
| UNKNOWN (8.21) | | | | | | | | | | | | | |
| UNKNOWN (9.12) | | 4.1 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (9.13) | | | | | | | | 2.5 | NJ | Z1 | | | |
| UNKNOWN (9.96) | | | | | | | | | | | | | |
| UNKNOWN ALKANE | | | | | | | | 4.8 | NJ | Z1 | | | |
| UNKNOWN ALKANE (10) | | | | | | | | | | | 4.1 | NJ | Z1 |
| UNKNOWN ALKANE (12.25) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.26) | | | | | | | | | | | 2.3 | NJ | Z1 |
| UNKNOWN ALKANE (12.47) | | 2.9 | NJ | Z1 | | | | | | | | | |
| UNKNOWN ALKANE (12.48) | | | | | | | | | | | 2.4 | NJ | Z1 |
| UNKNOWN ALKANE (16.43) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (16.71) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (18.63) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (2.93) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (4.24) | | 2.2 | NJ | Z1 | | | | | | | | | |
| UNKNOWN ALKANE (5.76) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (9.99) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG1-012012 | | | SG11-011912 | | | SG12-011912 | | | SG13-012012 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-015A | | | C1201051-001A | | | C1201051-003A | | | C1201051-011A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| UNKNOWN (18.68) | | | | | | | | | | | | | |
| UNKNOWN (18.69) | | | | | | | | | | | | | |
| UNKNOWN (2.92) | | 11 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (2.93) | | | | | | | | | | | | | |
| UNKNOWN (3.17) | | | | | | | | 4.9 | NJ | Z1 | | | |
| UNKNOWN (3.18) | | | | | | | | | | | | | |
| UNKNOWN (3.22) | | | | | | | | 4.1 | NJ | Z1 | | | |
| UNKNOWN (3.39) | | | | | | | | | | | | | |
| UNKNOWN (3.87) | | | | | | | | | | | | | |
| UNKNOWN (3.91) | | | | | | | | | | | | | |
| UNKNOWN (4.19) | | | | | | | | | | | | | |
| UNKNOWN (4.2) | | 8.6 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (4.23) | | | | | | | | | | | | | |
| UNKNOWN (5.08) | | | | | | | | | | | | | |
| UNKNOWN (8.21) | | 3.9 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (9.12) | | | | | | | | | | | | | |
| UNKNOWN (9.13) | | | | | | | | | | | | | |
| UNKNOWN (9.96) | | 5.5 | NJ | Z1 | | | | | | | | | |
| UNKNOWN ALKANE | | | | | | | | 4.6 | NJ | Z1 | 3 | NJ | Z1 |
| UNKNOWN ALKANE (10) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.25) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.26) | | | | | 1 | NJ | Z1 | | | | | | |
| UNKNOWN ALKANE (12.47) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.48) | | | | | 1 | NJ | Z1 | | | | | | |
| UNKNOWN ALKANE (16.43) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (16.71) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (18.63) | | | | | 1.1 | NJ | Z1 | | | | | | |
| UNKNOWN ALKANE (2.93) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (4.24) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (5.76) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (9.99) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG14-012012 | | | SG15-012012 | | | SG17-012012 | | | SG18-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-019A | | | C1201051-021A | | | C1201051-020A | | | C1201051-009A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| UNKNOWN (18.68) | | 2 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (18.69) | | | | | | | | | | | | | |
| UNKNOWN (2.92) | | | | | | | | | | | | | |
| UNKNOWN (2.93) | | 5 | NJ | Z1 | 5.4 | NJ | Z1 | | | | | | |
| UNKNOWN (3.17) | | | | | | | | | | | | | |
| UNKNOWN (3.18) | | | | | | | | | | | | | |
| UNKNOWN (3.22) | | | | | | | | | | | | | |
| UNKNOWN (3.39) | | | | | | | | | | | | | |
| UNKNOWN (3.87) | | | | | | | | | | | | | |
| UNKNOWN (3.91) | | | | | | | | | | | | | |
| UNKNOWN (4.19) | | | | | | | | | | | | | |
| UNKNOWN (4.2) | | | | | | | | | | | | | |
| UNKNOWN (4.23) | | | | | | | | | | | | | |
| UNKNOWN (5.08) | | | | | | | | | | | | | |
| UNKNOWN (8.21) | | | | | | | | | | | | | |
| UNKNOWN (9.12) | | | | | | | | | | | | | |
| UNKNOWN (9.13) | | | | | | | | | | | | | |
| UNKNOWN (9.96) | | | | | | | | | | | | | |
| UNKNOWN ALKANE | | 3.2 | NJ | Z1 | 2.6 | NJ | Z1 | 7 | NJ | Z1 | | | |
| UNKNOWN ALKANE (10) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.25) | | | | | | | | | | | 3.1 | NJ | Z1 |
| UNKNOWN ALKANE (12.26) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.47) | | | | | | | | | | | 3 | NJ | Z1 |
| UNKNOWN ALKANE (12.48) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (16.43) | | | | | | | | | | | 3.2 | NJ | Z1 |
| UNKNOWN ALKANE (16.71) | | | | | | | | | | | 16 | NJ | Z1 |
| UNKNOWN ALKANE (18.63) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (2.93) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (4.24) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (5.76) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (9.99) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG19-012012 | | | SG20-011912 | | | SG2-012012 | | | SG21-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-010A | | | C1201051-004A | | | C1201051-013A | | | C1201051-005A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/20/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| UNKNOWN (18.68) | | | | | | | | | | | | | |
| UNKNOWN (18.69) | | | | | | | | | | | 1.3 | NJ | Z1 |
| UNKNOWN (2.92) | | 9.2 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (2.93) | | | | | | | | | | | | | |
| UNKNOWN (3.17) | | | | | | | | | | | | | |
| UNKNOWN (3.18) | | | | | | | | | | | | | |
| UNKNOWN (3.22) | | | | | | | | | | | | | |
| UNKNOWN (3.39) | | | | | | | | | | | | | |
| UNKNOWN (3.87) | | 3 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (3.91) | | | | | | | | | | | | | |
| UNKNOWN (4.19) | | | | | | | | | | | | | |
| UNKNOWN (4.2) | | | | | | | | 4.2 | NJ | Z1 | | | |
| UNKNOWN (4.23) | | | | | | | | 4.4 | NJ | Z1 | | | |
| UNKNOWN (5.08) | | | | | | | | | | | | | |
| UNKNOWN (8.21) | | | | | | | | | | | | | |
| UNKNOWN (9.12) | | | | | | | | | | | | | |
| UNKNOWN (9.13) | | | | | | | | | | | | | |
| UNKNOWN (9.96) | | | | | | | | | | | | | |
| UNKNOWN ALKANE | | | | | | | | | | | 2.5 | NJ | Z1 |
| UNKNOWN ALKANE (10) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.25) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.26) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.47) | | | | | | | | 2.4 | NJ | Z1 | | | |
| UNKNOWN ALKANE (12.48) | | 8 | NJ | Z1 | | | | | | | | | |
| UNKNOWN ALKANE (16.43) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (16.71) | | 17 | NJ | Z1 | | | | | | | | | |
| UNKNOWN ALKANE (18.63) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (2.93) | | | | | | | | 5.9 | NJ | Z1 | | | |
| UNKNOWN ALKANE (4.24) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (5.76) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (9.99) | | | | | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG22-012012 | | | SG23-011912 | | | SG24-011912 | | | SG25-011912 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-016A | | | C1201051-006A | | | C1201051-007A | | | C1201051-008A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/19/2012 | | | 1/19/2012 | | | 1/19/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | | | | | | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| UNKNOWN (18.68) | | | | | | | | | | | | | |
| UNKNOWN (18.69) | | | | | | | | 1.4 | NJ | Z1 | | | |
| UNKNOWN (2.92) | | | | | | | | | | | | | |
| UNKNOWN (2.93) | | | | | | | | | | | | | |
| UNKNOWN (3.17) | | | | | | | | 5.9 | NJ | Z1 | | | |
| UNKNOWN (3.18) | | | | | | | | | | | | | |
| UNKNOWN (3.22) | | | | | | | | | | | | | |
| UNKNOWN (3.39) | | 3 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (3.87) | | | | | | | | | | | | | |
| UNKNOWN (3.91) | | | | | | | | | | | | | |
| UNKNOWN (4.19) | | | | | | | | | | | | | |
| UNKNOWN (4.2) | | | | | | | | | | | | | |
| UNKNOWN (4.23) | | | | | | | | | | | | | |
| UNKNOWN (5.08) | | | | | | | | | | | | | |
| UNKNOWN (8.21) | | 3.3 | NJ | Z1 | | | | | | | | | |
| UNKNOWN (9.12) | | | | | | | | | | | | | |
| UNKNOWN (9.13) | | | | | | | | | | | 0.59 | NJ | Z1 |
| UNKNOWN (9.96) | | | | | | | | | | | | | |
| UNKNOWN ALKANE | | | | | 5.6 | NJ | Z1 | | | | 1 | NJ | Z1 |
| UNKNOWN ALKANE (10) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.25) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.26) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.47) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (12.48) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (16.43) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (16.71) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (18.63) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (2.93) | | 8.4 | NJ | Z1 | | | | | | | | | |
| UNKNOWN ALKANE (4.24) | | | | | | | | | | | | | |
| UNKNOWN ALKANE (5.76) | | 2.9 | NJ | Z1 | | | | | | | | | |
| UNKNOWN ALKANE (9.99) | | 5.9 | NJ | Z1 | | | | | | | | | |

| PROJ_NO: 03634 | NSAMPLE | SG4-012012 | | | TB-012012 | | |
|---|---|---|---|---|---|---|---|
| SDG: C1201051 | LAB_ID | C1201051-017A | | | C1201051-023A | | |
| FRACTION: TICOV | SAMP_DATE | 1/20/2012 | | | 1/20/2012 | | |
| MEDIA: AIR | QC_TYPE | NM | | | NM | | |
| | UNITS | PPBV | | | PPBV | | |
| | PCT_SOLIDS | | | | | | |
| | DUP_OF | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| UNKNOWN (18.68) | | | | | | | |
| UNKNOWN (18.69) | | | | | | | |
| UNKNOWN (2.92) | | | | | | | |
| UNKNOWN (2.93) | | | | | | | |
| UNKNOWN (3.17) | | | | | | | |
| UNKNOWN (3.18) | | | | | | | |
| UNKNOWN (3.22) | | | | | | | |
| UNKNOWN (3.39) | | | | | | | |
| UNKNOWN (3.87) | | | | | | | |
| UNKNOWN (3.91) | | 3.5 | NJ | Z1 | | | |
| UNKNOWN (4.19) | | | | | | | |
| UNKNOWN (4.2) | | | | | | | |
| UNKNOWN (4.23) | | | | | | | |
| UNKNOWN (5.08) | | 4.3 | NJ | Z1 | | | |
| UNKNOWN (8.21) | | | | | | | |
| UNKNOWN (9.12) | | | | | | | |
| UNKNOWN (9.13) | | | | | | | |
| UNKNOWN (9.96) | | | | | | | |
| UNKNOWN ALKANE | | | | | | | |
| UNKNOWN ALKANE (10) | | | | | | | |
| UNKNOWN ALKANE (12.25) | | | | | | | |
| UNKNOWN ALKANE (12.26) | | | | | | | |
| UNKNOWN ALKANE (12.47) | | | | | | | |
| UNKNOWN ALKANE (12.48) | | | | | | | |
| UNKNOWN ALKANE (16.43) | | | | | | | |
| UNKNOWN ALKANE (16.71) | | | | | | | |
| UNKNOWN ALKANE (18.63) | | | | | | | |
| UNKNOWN ALKANE (2.93) | | | | | | | |
| UNKNOWN ALKANE (4.24) | | | | | | | |
| UNKNOWN ALKANE (5.76) | | | | | | | |
| UNKNOWN ALKANE (9.99) | | | | | | | |

## Appendix B

Results as Reported by the Laboratory

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA1-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 368,266 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-001A IA1-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,2,4-Trimethylbenzene | 1.6 | 0.75 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Benzene | 1.3 | 0.49 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Carbon disulfide | ND | 0.47 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Chloroform | 0.65 | 0.74 | J | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Ethylbenzene | 0.75 | 0.66 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Freon 12 | 2.3 | 0.75 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| m&p-Xylene | 1.9 | 1.3 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Methyl Ethyl Ketone | 26 | 9.0 | | ug/m3 | 10 | 1/29/2012 8:55:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Methylene chloride | 0.99 | 0.53 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Naphthalene | 5.1 | 0.80 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| o-Xylene | 0.71 | 0.66 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Toluene | 3.5 | 0.57 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 5:28:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA1-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 368,266 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-001A IA1-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/27/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/27/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,2,4-Trimethylbenzene | 0.32 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Benzene | 0.39 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Carbon disulfide | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Chloroform | 0.13 | 0.15 | J | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Ethylbenzene | 0.17 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Freon 12 | 0.45 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| m&p-Xylene | 0.42 | 0.30 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Methyl Ethyl Ketone | 8.8 | 3.0 | | ppbV | 10 | 1/29/2012 8:55:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Methylene chloride | 0.28 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Naphthalene | 0.95 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| o-Xylene | 0.16 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Toluene | 0.91 | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 5:28:00 AM |
| Surr: Bromofluorobenzene | 97.0 | 70-130 | | %REC | 1 | 1/28/2012 5:28:00 AM |
| TIC: 2-Pentanone | 0.92 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 1.4 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Benzene, 1-methyl-3-(1-methylethyl | 0.50 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA1-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 368,266 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-001A IAI-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 2-ethyl-1,4-dimethyl- | 0.41 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Benzene, 4-ethyl-1,2-dimethyl- | 0.70 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Butane | 1.0 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 6.3 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Ethane, 1-chloro-1,1-difluoro | 1.5 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Hexanal | 0.75 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Limonene | 7.8 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Methallyl cyanide | 2.0 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Pentanal | 0.51 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Undecane, 4,6-dimethyl- | 0.59 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Unknown (10.53) | 0.43 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Unknown (16.43) | 0.48 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Unknown (16.71) | 2.9 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Unknown (3.16) | 0.43 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |
| TIC: Unknown alkane | 0.64 | 0 | JN | ppbV | 1 | 1/28/2012 5:28:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA2-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 159,374 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-002A IA2-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,2,4-Trimethylbenzene | 1.0 | 0.75 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Benzene | 1.3 | 0.49 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Carbon disulfide | ND | 0.47 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Chloroform | 0.60 | 0.74 | J | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Chloromethane | 0.97 | 0.31 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Ethylbenzene | 0.71 | 0.66 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Freon 12 | 2.4 | 0.75 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| m&p-Xylene | 1.7 | 1.3 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Methyl Ethyl Ketone | 4.3 | 0.90 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Methylene chloride | 0.46 | 0.53 | J | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Naphthalene | 2.1 | 0.80 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| o-Xylene | 0.62 | 0.66 | J | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Toluene | 3.2 | 0.57 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 6:02:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA2-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 159,374 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-002A IA2-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/27/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/27/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,2,4-Trimethylbenzene | 0.20 | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Benzene | 0.39 | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Carbon disulfide | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Chloroform | 0.12 | 0.15 | J | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Chloromethane | 0.46 | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Ethylbenzene | 0.16 | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Freon 12 | 0.48 | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| m&p-Xylene | 0.38 | 0.30 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Methyl Ethyl Ketone | 1.4 | 0.30 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Methylene chloride | 0.13 | 0.15 | J | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Naphthalene | 0.40 | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| o-Xylene | 0.14 | 0.15 | J | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Toluene | 0.84 | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 6:02:00 AM |
| Surr: Bromofluorobenzene | 96.0 | 70-130 | | %REC | 1 | 1/28/2012 6:02:00 AM |
| TIC: 1,4-Pentadiene | 0.92 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Benzaldehyde | 0.27 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Benzene, 2-ethyl-1,4-dimethyl- | 0.36 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 10 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA2-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 159,374 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-002A IA2-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| TIC: Ethane, 1,1,2-trichloro-1,2,2-trif | 0.25 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Ethanol, 2-[(trimethylsilyl)oxy | 0.25 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Trichloromonofluoromethane | 0.24 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Trisiloxane, octamethyl- | 0.24 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown (12.63) | 0.34 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown (16.43) | 0.41 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown (16.71) | 5.1 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown (17.83) | 1.9 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown (18.06) | 0.24 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown (18.52) | 0.71 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown (3.22) | 1.3 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |
| TIC: Unknown alkane | 0.29 | 0 | JN | ppbV | 1 | 1/28/2012 6:02:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA3-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 430,267 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-003A IA3-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,2,4-Trimethylbenzene | 1.8 | 0.75 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Benzene | 1.3 | 0.49 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Carbon disulfide | ND | 0.47 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Chloromethane | 0.73 | 0.31 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Ethylbenzene | 0.84 | 0.66 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Freon 12 | ND | 0.75 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| m&p-Xylene | 4.1 | 1.3 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Methyl Ethyl Ketone | 3.0 | 0.90 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Methylene chloride | ND | 0.53 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Naphthalene | 6.9 | 0.80 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| o-Xylene | 1.9 | 0.66 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Toluene | 3.1 | 0.57 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 6:35:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA3-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 430,267 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-003A IA 3-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/27/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/27/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,2,4-Trimethylbenzene | 0.37 | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Benzene | 0.39 | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Carbon disulfide | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Chloromethane | 0.35 | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Ethylbenzene | 0.19 | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Freon 12 | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| m&p-Xylene | 0.92 | 0.30 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Methyl Ethyl Ketone | 0.99 | 0.30 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Methylene chloride | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Naphthalene | 1.3 | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| o-Xylene | 0.43 | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Toluene | 0.80 | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 6:35:00 AM |
| Surr: Bromofluorobenzene | 94.0 | 70-130 | | %REC | 1 | 1/28/2012 6:35:00 AM |
| TIC: Benzene, 1,2,3,4-tetramethy | 0.62 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Benzene, 1,2,4,5-tetramethyl- (18.9) | 1.0 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Benzene, 1,2,4-trimethyl- | 0.43 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Benzene, 1-ethyl-2-methyl- | 0.44 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | IA3-012512 |
| **Lab Order:** | C1201063 | **Tag Number:** | 430,267 |
| **Project:** | Maryland MartinAir Middle River 112IC0634 | **Collection Date:** | 1/25/2012 |
| **Lab ID:** | C1201063-003A IA3-012512 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-ethyl-3,5-dimethyl- | 0.39 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 0.37 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Benzene, 1-methyl-4-(1-methylethyl | 1.5 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 3.2 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Pentatriacontane | 1.1 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Trichloromonofluoromethane | 0.44 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Undecane, 2,6-dimethyl- | 1.0 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Unknown (10.42) | 0.43 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Unknown (16.71) | 11 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Unknown (17.84) | 0.45 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Unknown (19.7) | 1.4 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Unknown (20.15) | 5.1 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Unknown alkane (19.08) | 0.86 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |
| TIC: Unknown alkane (19.44) | 0.65 | 0 | JN | ppbV | 1 | 1/28/2012 6:35:00 AM |

| Qualifiers: | | | | |
|---|---|---|---|---|
| | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG07-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 328,126 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-022A SG07-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,2,4-Trimethylbenzene | 17 | 15 | | ug/m3 | 20 | 1/29/2012 8:22:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Benzene | 24 | 9.7 | | ug/m3 | 20 | 1/29/2012 8:22:00 AM |
| Carbon disulfide | 4.0 | 0.47 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| cis-1,2-Dichloroethene | 4.1 | 0.60 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Ethylbenzene | 4.2 | 0.66 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Freon 12 | 2.0 | 0.75 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| m&p-Xylene | 14 | 1.3 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Methyl Ethyl Ketone | 22 | 18 | | ug/m3 | 20 | 1/29/2012 8:22:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Methylene chloride | 0.71 | 0.53 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Naphthalene | 5.6 | 0.80 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| o-Xylene | 9.0 | 0.66 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Toluene | 41 | 11 | | ug/m3 | 20 | 1/29/2012 8:22:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 4:55:00 AM |
| Vinyl chloride | 77 | 2.1 | | ug/m3 | 20 | 1/29/2012 8:22:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG07-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 328,126 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-022A SG07-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,2,4-Trimethylbenzene | 3.4 | 3.0 | | ppbV | 20 | 1/29/2012 8:22:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Benzene | 7.4 | 3.0 | | ppbV | 20 | 1/29/2012 8:22:00 AM |
| Carbon disulfide | 1.3 | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| cis-1,2-Dichloroethene | 1.0 | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Ethylbenzene | 0.96 | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Freon 12 | 0.40 | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| m&p-Xylene | 3.3 | 0.30 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Methyl Ethyl Ketone | 7.4 | 6.0 | | ppbV | 20 | 1/29/2012 8:22:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Methylene chloride | 0.20 | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Naphthalene | 1.1 | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| o-Xylene | 2.0 | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Toluene | 11 | 3.0 | | ppbV | 20 | 1/29/2012 8:22:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 4:55:00 AM |
| Vinyl chloride | 30 | 0.80 | | ppbV | 20 | 1/29/2012 8:22:00 AM |
| Surr: Bromofluorobenzene | 96.0 | 70-130 | | %REC | 1 | 1/28/2012 4:55:00 AM |
| TIC: Benzene, 2-ethyl-1,4-dimethyl- | 1.6 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Benzene, 4-ethyl-1,2-dimethyl- | 2.2 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Butane | 5.2 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Butane, 2-methyl- | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG07-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 328,126 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-022A SG07-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Cyclohexane, methyl- | 6.7 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 4.7 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Hexane, 2,2-dimethyl- | 7.7 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Hexane, 3-methyl- | 3.6 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Isobutane | 2.0 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Methallyl cyanide | 4.0 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Pentane, 2,3-dimethyl- | 1.9 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Pentane, 2-methyl- | 2.4 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Pentane, 3-methyl- | 1.7 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Unknown (10.41) | 3.3 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Unknown (12.25) | 2.7 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Unknown (2.93) | 4.2 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Unknown (9.12) | 4.1 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Unknown alkane (12.47) | 2.9 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |
| TIC: Unknown alkane (4.24) | 2.2 | 0 | JN | ppbV | 1 | 1/28/2012 4:55:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG08-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 471,339 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-018A SG08-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,2,4-Trimethylbenzene | 32 | 7.5 | | ug/m3 | 10 | 1/29/2012 6:12:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Benzene | 21 | 4.9 | | ug/m3 | 10 | 1/29/2012 6:12:00 AM |
| Carbon disulfide | 4.9 | 0.47 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| cis-1,2-Dichloroethene | 0.60 | 0.60 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Ethylbenzene | 5.8 | 0.66 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Freon 12 | 2.2 | 0.75 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| m&p-Xylene | 24 | 13 | | ug/m3 | 10 | 1/29/2012 6:12:00 AM |
| Methyl Ethyl Ketone | 51 | 9.0 | | ug/m3 | 10 | 1/29/2012 6:12:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Methylene chloride | 0.74 | 0.53 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Naphthalene | 11 | 0.80 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| o-Xylene | 15 | 6.6 | | ug/m3 | 10 | 1/29/2012 6:12:00 AM |
| Tetrachloroethylene | 1.8 | 1.0 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Toluene | 32 | 5.7 | | ug/m3 | 10 | 1/29/2012 6:12:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 2:41:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG08-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 471,339 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-018A SG08-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,2,4-Trimethylbenzene | 6.5 | 1.5 | | ppbV | 10 | 1/29/2012 6:12:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Benzene | 6.4 | 1.5 | | ppbV | 10 | 1/29/2012 6:12:00 AM |
| Carbon disulfide | 1.5 | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| cis-1,2-Dichloroethene | 0.15 | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Ethylbenzene | 1.3 | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Freon 12 | 0.44 | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| m&p-Xylene | 5.4 | 3.0 | | ppbV | 10 | 1/29/2012 6:12:00 AM |
| Methyl Ethyl Ketone | 17 | 3.0 | | ppbV | 10 | 1/29/2012 6:12:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Methylene chloride | 0.21 | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Naphthalene | 2.0 | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| o-Xylene | 3.5 | 1.5 | | ppbV | 10 | 1/29/2012 6:12:00 AM |
| Tetrachloroethylene | 0.26 | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Toluene | 8.3 | 1.5 | | ppbV | 10 | 1/29/2012 6:12:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 2:41:00 AM |
| Surr: Bromofluorobenzene | 96.0 | 70-130 | | %REC | 1 | 1/28/2012 2:41:00 AM |
| TIC: 1-Pentene, 2-methyl- | 2.3 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: 1-Propene, 2-methyl- | 11 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Acetaldehyde | 12 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Benzene, 1,2,3-trimethyl- | 2.3 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Benzene, 1-ethyl-2-methyl- | 2.8 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG08-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 471,339 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-018A SG08-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 3.0 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Benzene, 1-methyl-4-(1-methylethyl | 3.2 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Benzoic acid, 2-[(trimethylsilyl)o | 3.5 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Butanal, 3-methyl- | 3.0 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Butane | 5.7 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Butane, 2-methyl- | 2.4 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Cyclohexane, methyl- | 2.8 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Hexane, 2,2-dimethyl- | 7.4 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Pentane | 2.7 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Pentane, 2,3,3-trimethyl- | 4.2 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Pentane, 2,3,4-trimethyl- | 2.7 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Unknown (16.71) | 6.2 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Unknown (2.93) | 4.3 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |
| TIC: Unknown (4.19) | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 2:41:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG09-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 332,78 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-012A SG09-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,2,4-Trimethylbenzene | 8.5 | 7.5 | | ug/m3 | 10 | 1/29/2012 1:50:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Benzene | 24 | 4.9 | | ug/m3 | 10 | 1/29/2012 1:50:00 AM |
| Carbon disulfide | 7.3 | 4.7 | | ug/m3 | 10 | 1/29/2012 1:50:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Ethylbenzene | 4.4 | 0.66 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Freon 12 | 2.1 | 0.75 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| m&p-Xylene | 14 | 1.3 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Methyl Ethyl Ketone | 51 | 9.0 | | ug/m3 | 10 | 1/29/2012 1:50:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Methylene chloride | 0.64 | 0.53 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Naphthalene | 2.8 | 0.80 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| o-Xylene | 7.7 | 0.66 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Toluene | 22 | 5.7 | | ug/m3 | 10 | 1/29/2012 1:50:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 11:19:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG09-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 332,78 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-012A SG09-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -10 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,2,4-Trimethylbenzene | 1.7 | 1.5 | | ppbV | 10 | 1/29/2012 1:50:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Benzene | 7.3 | 1.5 | | ppbV | 10 | 1/29/2012 1:50:00 AM |
| Carbon disulfide | 2.3 | 1.5 | | ppbV | 10 | 1/29/2012 1:50:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Ethylbenzene | 0.99 | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Freon 12 | 0.42 | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| m&p-Xylene | 3.1 | 0.30 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Methyl Ethyl Ketone | 17 | 3.0 | | ppbV | 10 | 1/29/2012 1:50:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Methylene chloride | 0.18 | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Naphthalene | 0.53 | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| o-Xylene | 1.7 | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Toluene | 5.7 | 1.5 | | ppbV | 10 | 1/29/2012 1:50:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 11:19:00 PM |
| Surr: Bromofluorobenzene | 97.0 | 70-130 | | %REC | 1 | 1/27/2012 11:19:00 PM |
| TIC: .alpha.-Pinene | 2.5 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: 1-Propene, 2-methyl- | 15 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Butanal, 3-methyl- | 2.8 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Butane | 4.1 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG09-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 332,78 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-012A SG09-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| TIC: Butane, 2,2,3,3-tetramethyl- | 7.1 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Butane, 2-methyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Cyclohexane, methyl- | 2.5 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Cyclopropane, 1,2-dimethyl-, cis- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 9.7 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Hexane, 3-methyl- | 2.4 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Limonene | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Pentane | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Pentane, 2,3,3-trimethyl- | 5.3 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Pentane, 2,3,4-trimethyl- | 3.1 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Unknown (10.09) | 1.9 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Unknown (16.71) | 6.3 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Unknown (9.13) | 2.5 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |
| TIC: Unknown alkane | 4.8 | 0 | JN | ppbV | 1 | 1/27/2012 11:19:00 PM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG1-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 558,249 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-015A SG1-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,2,4-Trimethylbenzene | 31 | 7.5 | | ug/m3 | 10 | 1/29/2012 2:56:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Benzene | 39 | 4.9 | | ug/m3 | 10 | 1/29/2012 2:56:00 AM |
| Carbon disulfide | 13 | 4.7 | | ug/m3 | 10 | 1/29/2012 2:56:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Chloroform | 350 | 30 | | ug/m3 | 40 | 1/29/2012 3:28:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Ethylbenzene | 8.8 | 0.66 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Freon 12 | 1.8 | 0.75 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| m&p-Xylene | 35 | 13 | | ug/m3 | 10 | 1/29/2012 2:56:00 AM |
| Methyl Ethyl Ketone | 470 | 36 | | ug/m3 | 40 | 1/29/2012 3:28:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Methylene chloride | 0.46 | 0.53 | J | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Naphthalene | 5.6 | 0.80 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| o-Xylene | 19 | 6.6 | | ug/m3 | 10 | 1/29/2012 2:56:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Toluene | 76 | 5.7 | | ug/m3 | 10 | 1/29/2012 2:56:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 12:26:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG1-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 558,249 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-015A SG1-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -2 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,2,4-Trimethylbenzene | 6.2 | 1.5 | | ppbV | 10 | 1/29/2012 2:56:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Benzene | 12 | 1.5 | | ppbV | 10 | 1/29/2012 2:56:00 AM |
| Carbon disulfide | 4.1 | 1.5 | | ppbV | 10 | 1/29/2012 2:56:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Chloroform | 70 | 6.0 | | ppbV | 40 | 1/29/2012 3:28:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Ethylbenzene | 2.0 | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Freon 12 | 0.36 | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| m&p-Xylene | 7.9 | 3.0 | | ppbV | 10 | 1/29/2012 2:56:00 AM |
| Methyl Ethyl Ketone | 160 | 12 | | ppbV | 40 | 1/29/2012 3:28:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Methylene chloride | 0.13 | 0.15 | J | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Naphthalene | 1.0 | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| o-Xylene | 4.2 | 1.5 | | ppbV | 10 | 1/29/2012 2:56:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Toluene | 20 | 1.5 | | ppbV | 10 | 1/29/2012 2:56:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 12:26:00 AM |
| Surr: Bromofluorobenzene | 92.0 | 70-130 | | %REC | 1 | 1/28/2012 12:26:00 AM |
| TIC: 1,3-Cyclopentadiene, 1-methyl- $$ | 3.5 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: 1,3-Octadiene | 7.4 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: 1-Propene, 2-methyl- | 17 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: 2-Pentene, (Z)- | 3.6 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Butane | 7.6 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG1-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 558,249 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-015A SG1-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| TIC: Butane, 2-methyl- | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Cyclopropane, ethylidene- | 2.6 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 2.6 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Hexanal | 2.9 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Isobutane | 2.7 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Pentane, 2-methyl- | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Propanal, 2-methyl- | 3.7 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Unknown (10.4) | 7.0 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Unknown (16.71) | 3.4 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Unknown (2.92) | 11 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Unknown (4.2) | 8.6 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Unknown (8.21) | 3.9 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |
| TIC: Unknown (9.96) | 5.5 | 0 | JN | ppbV | 1 | 1/28/2012 12:26:00 AM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG10-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 554,80 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-002A SG10-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,2,4-Trimethylbenzene | 11 | 0.75 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Benzene | 2.5 | 0.49 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Carbon disulfide | 0.79 | 0.47 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Chloromethane | 0.78 | 0.31 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Ethylbenzene | 3.4 | 0.66 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Freon 12 | 2.6 | 0.75 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| m&p-Xylene | 11 | 1.3 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Methyl Ethyl Ketone | 8.7 | 9.0 | J | ug/m3 | 10 | 1/28/2012 7:40:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Methylene chloride | 0.46 | 0.53 | J | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Naphthalene | 3.6 | 0.80 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| o-Xylene | 5.9 | 0.66 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Toluene | 26 | 5.7 | | ug/m3 | 10 | 1/28/2012 7:40:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 5:41:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG10-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 554,80 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-002A SG10-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -3 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,2,4-Trimethylbenzene | 2.1 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Benzene | 0.76 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Carbon disulfide | 0.25 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Chloromethane | 0.37 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Ethylbenzene | 0.77 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Freon 12 | 0.51 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| m&p-Xylene | 2.4 | 0.30 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Methyl Ethyl Ketone | 2.9 | 3.0 | J | ppbV | 10 | 1/28/2012 7:40:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Methylene chloride | 0.13 | 0.15 | J | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Naphthalene | 0.67 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| o-Xylene | 1.3 | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Toluene | 6.7 | 1.5 | | ppbV | 10 | 1/28/2012 7:40:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 5:41:00 PM |
| Surr: Bromofluorobenzene | 93.0 | 70-130 | | %REC | 1 | 1/27/2012 5:41:00 PM |
| TIC: 4-Carene | 1.0 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl- | 0.91 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Benzene, 4-ethyl-1,2-dimethyl- | 0.78 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Butane | 0.94 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Cyclohexane, methyl- | 1.9 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG10-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 554,80 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-002A SG10-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| TIC: Cyclopentane, 1,3-dimethyl-, cis- | 0.78 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Cyclopentane, methyl- | 0.75 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 5.0 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Hexane, 3-methyl- | 0.89 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Limonene | 1.0 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: p-Trimethylsilyloxyphenyl-bis(trim | 4.2 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Pentane, 2,3-dimethyl- | 0.81 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Pentane, 2-methyl- | 0.87 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Unknown (16.71) | 21 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Unknown (3.18) | 1.4 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Unknown alkane (10) | 4.1 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Unknown alkane (12.26) | 2.3 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |
| TIC: Unknown alkane (12.48) | 2.4 | 0 | JN | ppbV | 1 | 1/27/2012 5:41:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG11-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 233,65 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-001A SG11-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,2,4-Trimethylbenzene | 11 | 7.5 | | ug/m3 | 10 | 1/28/2012 7:07:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Benzene | 2.7 | 0.49 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Carbon disulfide | 1.2 | 0.47 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Chloromethane | 0.73 | 0.31 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Ethylbenzene | 3.7 | 0.66 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Freon 12 | 2.1 | 0.75 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| m&p-Xylene | 12 | 1.3 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Methyl Ethyl Ketone | 5.4 | 0.90 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Methylene chloride | ND | 0.53 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Naphthalene | 2.7 | 0.80 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| o-Xylene | 7.0 | 0.66 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Toluene | 16 | 5.7 | | ug/m3 | 10 | 1/28/2012 7:07:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 5:08:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG11-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 233,65 |
| **Project:** | Maryland MartinAir Middle River 1121C03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-001A SG11-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -4 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,2,4-Trimethylbenzene | 2.3 | 1.5 | | ppbV | 10 | 1/28/2012 7:07:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Benzene | 0.84 | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Carbon disulfide | 0.37 | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Chloromethane | 0.35 | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Ethylbenzene | 0.84 | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Freon 12 | 0.41 | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| m&p-Xylene | 2.7 | 0.30 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Methyl Ethyl Ketone | 1.8 | 0.30 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Methylene chloride | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Naphthalene | 0.51 | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| o-Xylene | 1.6 | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Toluene | 4.1 | 1.5 | | ppbV | 10 | 1/28/2012 7:07:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 5:08:00 PM |
| Surr: Bromofluorobenzene | 94.0 | 70-130 | | %REC | 1 | 1/27/2012 5:08:00 PM |
| TIC: 3-Carene | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: 4-Carene | 0.60 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Benzene, 1,2,3-trimethyl- (17.77) | 1.7 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl- (16.82) | 2.0 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG11-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 233,65 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-001A SG11-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-methyl-4-(1-methylethyl | 0.83 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Benzene, 4-ethyl-1,2-dimethyl- | 0.75 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Butane, 2,2,3,3-tetramethyl- | 0.98 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Cyclohexane, 1,2,3-trimethyl , (1. | 0.55 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Cyclohexane, 1-ethyl-4-methyl-, tr | 0.58 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Cyclohexane, methyl- | 0.76 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 3.9 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Propanenitrile, 3-methoxy- | 0.61 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Silanol, trimethyl- | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Unknown | 6.8 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Unknown alkane (12.26) | 1.0 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Unknown alkane (12.48) | 1.0 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |
| TIC: Unknown alkane (18.63) | 1.1 | 0 | JN | ppbV | 1 | 1/27/2012 5:08:00 PM |

| | | | | |
|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG12-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 163,177 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-003A SG12-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,2,4-Trimethylbenzene | 15 | 7.5 | | ug/m3 | 10 | 1/28/2012 8:12:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Benzene | 4.6 | 0.49 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Carbon disulfide | 1.8 | 0.47 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Ethylbenzene | 4.0 | 0.66 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Freon 12 | 2.1 | 0.75 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| m&p-Xylene | 13 | 1.3 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Methyl Ethyl Ketone | 18 | 9.0 | | ug/m3 | 10 | 1/28/2012 8:12:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Methylene chloride | 0.60 | 0.53 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Naphthalene | 3.0 | 0.80 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| o-Xylene | 7.5 | 0.66 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Toluene | 22 | 5.7 | | ug/m3 | 10 | 1/28/2012 8:12:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 6:15:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG12-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 163,177 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-003A SG12-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -5 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,2,4-Trimethylbenzene | 3.0 | 1.5 | | ppbV | 10 | 1/28/2012 8:12:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Benzene | 1.4 | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Carbon disulfide | 0.57 | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Ethylbenzene | 0.91 | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Freon 12 | 0.41 | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| m&p-Xylene | 3.0 | 0.30 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Methyl Ethyl Ketone | 6.1 | 3.0 | | ppbV | 10 | 1/28/2012 8:12:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Methylene chloride | 0.17 | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Naphthalene | 0.57 | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| o-Xylene | 1.7 | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Toluene | 5.8 | 1.5 | | ppbV | 10 | 1/28/2012 8:12:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 6:15:00 PM |
| Surr: Bromofluorobenzene | 99.0 | 70-130 | | %REC | 1 | 1/27/2012 6:15:00 PM |
| TIC: (1R)-2,6,6-Trimethylbicyclo[3.1.1] | 2.1 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: 1-Octene, 6-methyl- | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Benzene, 1,3,5-trimethyl- | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG12-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 163,177 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-003A SG12-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 2-ethyl-1,4-dimethyl- | 1.3 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Butane, 2,2,3,3-tetramethyl- | 6.3 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Cyclohexane, 1,3-dimethyl-, trans- | 1.4 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Cyclohexane, methyl- | 2.3 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 8.7 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Hexane, 2,4-dimethyl- | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: p-Trimethylsilyloxyphenyl-(trimeth | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Pentane, 2,3,4-trimethyl- | 3.1 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Pentane, 2,3-dimethyl- | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Pentane, 2-methyl- | 1.5 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Unknown (16.71) | 6.3 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Unknown (3.17) | 4.9 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Unknown (3.22) | 4.1 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |
| TIC: Unknown alkane | 4.6 | 0 | JN | ppbV | 1 | 1/27/2012 6:15:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG13-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 161,381 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-011A SG13-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,2,4-Trimethylbenzene | 19 | 3.7 | | ug/m3 | 5 | 1/29/2012 12:45:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Benzene | 11 | 2.4 | | ug/m3 | 5 | 1/29/2012 12:45:00 AM |
| Carbon disulfide | 4.1 | 0.47 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Ethylbenzene | 4.9 | 0.66 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Freon 12 | 2.0 | 0.75 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| m&p-Xylene | 16 | 1.3 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Methyl Ethyl Ketone | 220 | 36 | | ug/m3 | 40 | 1/29/2012 1:18:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Methylene chloride | ND | 0.53 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Naphthalene | 4.7 | 0.80 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| o-Xylene | 9.4 | 0.66 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Toluene | 33 | 2.9 | | ug/m3 | 5 | 1/29/2012 12:45:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 10:45:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG13-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 161,381 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-011A SG13-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -4 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,2,4-Trimethylbenzene | 3.9 | 0.75 | | ppbV | 5 | 1/29/2012 12:45:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Benzene | 3.4 | 0.75 | | ppbV | 5 | 1/29/2012 12:45:00 AM |
| Carbon disulfide | 1.3 | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Ethylbenzene | 1.1 | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Freon 12 | 0.39 | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| m&p-Xylene | 3.6 | 0.30 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Methyl Ethyl Ketone | 74 | 12 | | ppbV | 40 | 1/29/2012 1:18:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Methylene chloride | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Naphthalene | 0.89 | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| o-Xylene | 2.1 | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Toluene | 8.6 | 0.75 | | ppbV | 5 | 1/29/2012 12:45:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 10:45:00 PM |
| Surr: Bromofluorobenzene | 94.0 | 70-130 | | %REC | 1 | 1/27/2012 10:45:00 PM |
| TIC: 1-Pentene | 1.9 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: 1-Propene, 2-methyl- (3.17) | 14 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Benzene, 1,3,5-trimethyl- | 1.4 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl- | 2.0 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 1.5 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG13-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 161,381 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-011A SG13-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Butane | 4.7 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Cyclohexane, methyl- | 1.7 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 7.9 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Hexane, 2,2-dimethyl- | 5.6 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Isobutane | 1.9 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Pentane, 2,3,4-trimethyl- | 2.1 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Unknown (10.41) | 2.0 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Unknown (16.43) | 2.8 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Unknown (16.71) | 12 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Unknown (18.64) | 5.3 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |
| TIC: Unknown alkane | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 10:45:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG14-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 547,57 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-019A SG14-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,2,4-Trimethylbenzene | 25 | 7.5 | | ug/m3 | 10 | 1/29/2012 6:45:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Benzene | 10 | 4.9 | | ug/m3 | 10 | 1/29/2012 6:45:00 AM |
| Carbon disulfide | 2.1 | 0.47 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Ethylbenzene | 5.3 | 0.66 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Freon 12 | 2.1 | 0.75 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| m&p-Xylene | 18 | 13 | | ug/m3 | 10 | 1/29/2012 6:45:00 AM |
| Methyl Ethyl Ketone | 55 | 9.0 | | ug/m3 | 10 | 1/29/2012 6:45:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Methylene chloride | 2.6 | 0.53 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Naphthalene | 11 | 0.80 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| o-Xylene | 11 | 6.6 | | ug/m3 | 10 | 1/29/2012 6:45:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Toluene | 22 | 5.7 | | ug/m3 | 10 | 1/29/2012 6:45:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Trichloroethene | 0.66 | 0.22 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 3:14:00 AM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG14-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 547,57 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-019A 5614-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,2,4-Trimethylbenzene | 5.1 | 1.5 | | ppbV | 10 | 1/29/2012 6:45:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Benzene | 3.2 | 1.5 | | ppbV | 10 | 1/29/2012 6:45:00 AM |
| Carbon disulfide | 0.65 | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Ethylbenzene | 1.2 | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Freon 12 | 0.42 | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| m&p-Xylene | 4.1 | 3.0 | | ppbV | 10 | 1/29/2012 6:45:00 AM |
| Methyl Ethyl Ketone | 18 | 3.0 | | ppbV | 10 | 1/29/2012 6:45:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Methylene chloride | 0.73 | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Naphthalene | 2.0 | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| o-Xylene | 2.5 | 1.5 | | ppbV | 10 | 1/29/2012 6:45:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Toluene | 5.8 | 1.5 | | ppbV | 10 | 1/29/2012 6:45:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Trichloroethene | 0.12 | 0.040 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 3:14:00 AM |
| Surr: Bromofluorobenzene | 93.0 | 70-130 | | %REC | 1 | 1/28/2012 3:14:00 AM |
| TIC: 1-Propene, 2-methyl- | 13 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Benzene, 1,3,5-trimethyl- | 2.1 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Benzene, 1-ethyl-2-methyl- | 2.7 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 3.1 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG14-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 547,57 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-019A SG14-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-methyl-4-(1-methylethyl | 3.8 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Butane | 6.4 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Butane, 2-methyl- | 2.0 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Cyclohexane, methyl- | 2.2 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 11 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Indan, 1-methyl- | 2.4 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Isobutane | 2.3 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Pentane | 2.7 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Pentane, 2,2,4-trimethyl- | 5.5 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Pentane, 2,3,4-trimethyl- | 2.3 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Unknown (10.41) | 2.6 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Unknown (16.71) | 8.7 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Unknown (18.68) | 2.0 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Unknown (2.93) | 5.0 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |
| TIC: Unknown alkane | 3.2 | 0 | JN | ppbV | 1 | 1/28/2012 3:14:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG15-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 353,402 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-021A SG15-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,2,4-Trimethylbenzene | 30 | 15 | | ug/m3 | 20 | 1/29/2012 7:50:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Benzene | 14 | 9.7 | | ug/m3 | 20 | 1/29/2012 7:50:00 AM |
| Carbon disulfide | 5.3 | 0.47 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Ethylbenzene | 4.9 | 0.66 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Freon 12 | 2.0 | 0.75 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| m&p-Xylene | 17 | 1.3 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Methyl Ethyl Ketone | 110 | 18 | | ug/m3 | 20 | 1/29/2012 7:50:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Methylene chloride | 0.42 | 0.53 | J | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Naphthalene | 7.2 | 0.80 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| o-Xylene | 14 | 13 | | ug/m3 | 20 | 1/29/2012 7:50:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Toluene | 28 | 11 | | ug/m3 | 20 | 1/29/2012 7:50:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 4:21:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG15-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 353,402 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-021A SG15-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,2,4-Trimethylbenzene | 6.0 | 3.0 | | ppbV | 20 | 1/29/2012 7:50:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Benzene | 4.2 | 3.0 | | ppbV | 20 | 1/29/2012 7:50:00 AM |
| Carbon disulfide | 1.7 | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Ethylbenzene | 1.1 | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Freon 12 | 0.40 | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| m&p-Xylene | 3.8 | 0.30 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Methyl Ethyl Ketone | 37 | 6.0 | | ppbV | 20 | 1/29/2012 7:50:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Methylene chloride | 0.12 | 0.15 | J | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Naphthalene | 1.4 | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| o-Xylene | 3.2 | 3.0 | | ppbV | 20 | 1/29/2012 7:50:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Toluene | 7.4 | 3.0 | | ppbV | 20 | 1/29/2012 7:50:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 4:21:00 AM |
| Surr: Bromofluorobenzene | 103 | 70-130 | | %REC | 1 | 1/28/2012 4:21:00 AM |
| TIC: 1-Propene, 2-methyl- | 12 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Benzene, 1,2,3-trimethyl- | 1.9 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Benzene, 1,2,4-trimethyl- | 1.8 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Benzene, 1-ethyl-2-methyl- (16.81) | 4.6 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG15-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 353,402 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-021A SG15-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-ethyl-2-methyl- (17.11) | 1.9 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Butane | 3.8 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Butane, 2,2,3,3-tetramethyl- | 6.4 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Cyclohexane, methyl- | 3.0 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 4.2 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Hexane, 3-methyl- | 2.0 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Methallyl cyanide | 2.4 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Pentane | 1.9 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Pentane, 2,3,3-trimethyl- | 3.0 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Pentane, 2,3,4-trimethyl- | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Unknown (16.43) | 2.0 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Unknown (16.71) | 4.6 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Unknown (2.93) | 5.4 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |
| TIC: Unknown alkane | 2.6 | 0 | JN | ppbV | 1 | 1/28/2012 4:21:00 AM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG17-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 561,118 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-020A SG17-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,2,4-Trimethylbenzene | 25 | 15 | | ug/m3 | 20 | 1/29/2012 7:17:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Benzene | 22 | 9.7 | | ug/m3 | 20 | 1/29/2012 7:17:00 AM |
| Carbon disulfide | ND | 0.47 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Ethylbenzene | 4.9 | 0.66 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Freon 12 | 1.8 | 0.75 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| m&p-Xylene | 17 | 1.3 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Methyl Ethyl Ketone | 130 | 18 | | ug/m3 | 20 | 1/29/2012 7:17:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Methylene chloride | 0.71 | 0.53 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Naphthalene | 3.9 | 0.80 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| o-Xylene | 16 | 13 | | ug/m3 | 20 | 1/29/2012 7:17:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Toluene | 34 | 11 | | ug/m3 | 20 | 1/29/2012 7:17:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 3:48:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG17-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 561,118 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-020A SG17-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -4 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,2,4-Trimethylbenzene | 5.0 | 3.0 | | ppbV | 20 | 1/29/2012 7:17:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Benzene | 6.8 | 3.0 | | ppbV | 20 | 1/29/2012 7:17:00 AM |
| Carbon disulfide | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Ethylbenzene | 1.1 | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Freon 12 | 0.35 | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| m&p-Xylene | 3.8 | 0.30 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Methyl Ethyl Ketone | 44 | 6.0 | | ppbV | 20 | 1/29/2012 7:17:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Methylene chloride | 0.20 | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Naphthalene | 0.74 | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| o-Xylene | 3.6 | 3.0 | | ppbV | 20 | 1/29/2012 7:17:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Toluene | 9.0 | 3.0 | | ppbV | 20 | 1/29/2012 7:17:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 3:48:00 AM |
| Surr: Bromofluorobenzene | 95.0 | 70-130 | | %REC | 1 | 1/28/2012 3:48:00 AM |
| TIC: 1,3-Cyclopentadiene | 6.1 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: 1-Heptene | 2.4 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: 1-Pentene | 3.1 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: 1-Pentene, 4-methyl- | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: 1-Propene, 2-methyl- (3.17) | 18 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |

**Qualifiers:**

| | |
|---|---|
| ** | Reporting Limit |
| B | Analyte detected in the associated Method Blank |
| H | Holding times for preparation or analysis exceeded |
| JN | Non-routine analyte. Quantitation estimated. |
| S | Spike Recovery outside accepted recovery limits |
| . | Results reported are not blank corrected |
| E | Value above quantitation range |
| J | Analyte detected at or below quantitation limits |
| ND | Not Detected at the Reporting Limit |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG17-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 561,118 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-020A SG17-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-ethyl-2-methyl- | 2.3 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Benzoic acid, 2-[(trimethylsilyl)o | 2.8 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Butanal, 3-methyl- | 4.2 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Butane | 5.8 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Cyclohexane, methyl- | 2.7 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 6.2 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: D-Limonene | 2.4 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Hexane, 2,3,4-trimethyl- | 3.9 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Isobutane | 2.6 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Pentane, 2-methyl- | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Unknown (12.25) | 2.5 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Unknown (16.71) | 23 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |
| TIC: Unknown alkane | 7.0 | 0 | JN | ppbV | 1 | 1/28/2012 3:48:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG18-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 200,54 |
| **Project:** | Maryland MartinAir Middle River 1121C03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-009A SG18-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,2,4-Trimethylbenzene | 23 | 3.7 | | ug/m3 | 5 | 1/28/2012 9:59:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Benzene | 10 | 2.4 | | ug/m3 | 5 | 1/28/2012 9:59:00 PM |
| Carbon disulfide | 13 | 2.4 | | ug/m3 | 5 | 1/28/2012 9:59:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Ethylbenzene | 4.6 | 0.66 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Freon 12 | 2.1 | 0.75 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| m&p-Xylene | 16 | 1.3 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Methyl Ethyl Ketone | 400 | 36 | | ug/m3 | 40 | 1/28/2012 10:32:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Methylene chloride | 0.67 | 0.53 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Naphthalene | 4.4 | 0.80 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| o-Xylene | 11 | 3.3 | | ug/m3 | 5 | 1/28/2012 9:59:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Toluene | 23 | 2.9 | | ug/m3 | 5 | 1/28/2012 9:59:00 PM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 9:35:00 PM |

| Qualifiers: | | | | | |
|---|---|---|---|---|---|
| | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG18-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 200,54 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-009A SG18-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -5 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,2,4-Trimethylbenzene | 4.7 | 0.75 | | ppbV | 5 | 1/28/2012 9:59:00 PM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Benzene | 3.2 | 0.75 | | ppbV | 5 | 1/28/2012 9:59:00 PM |
| Carbon disulfide | 4.0 | 0.75 | | ppbV | 5 | 1/28/2012 9:59:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Ethylbenzene | 1.0 | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Freon 12 | 0.41 | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| m&p-Xylene | 3.5 | 0.30 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Methyl Ethyl Ketone | 130 | 12 | | ppbV | 40 | 1/28/2012 10:32:00 PM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Methylene chloride | 0.19 | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Naphthalene | 0.82 | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| o-Xylene | 2.6 | 0.75 | | ppbV | 5 | 1/28/2012 9:59:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Toluene | 6.1 | 0.75 | | ppbV | 5 | 1/28/2012 9:59:00 PM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 9:35:00 PM |
| Surr: Bromofluorobenzene | 94.0 | 70-130 | | %REC | 1 | 1/27/2012 9:35:00 PM |
| TIC: 1-Propene, 2-methyl- | 12 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Arsenous acid, tris(trimethylsilyl | 44 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Benzene, 1,2,4-trimethyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Benzene, 1,3,5-trimethyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl- | 2.0 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG18-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 200,54 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-009A SG18-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-methyl-4-(1-methylethyl | 1.5 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Benzene, 4-ethyl-1,2-dimethyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Butane | 2.6 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Butane, 2,2,3,3-tetramethyl- | 6.6 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Cyclohexane, methyl- | 1.9 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Pentanal | 2.7 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Pentane, 2,3-dimethyl- | 1.5 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Unknown | 4.6 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Unknown alkane (12.25) | 3.1 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Unknown alkane (12.47) | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Unknown alkane (16.43) | 3.2 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |
| TIC: Unknown alkane (16.71) | 16 | 0 | JN | ppbV | 1 | 1/27/2012 9:35:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG19-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 1165,60 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-010A SG19-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,2,4-Trimethylbenzene | 22 | 3.7 | | ug/m3 | 5 | 1/28/2012 11:07:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Benzene | 24 | 2.4 | | ug/m3 | 5 | 1/28/2012 11:07:00 PM |
| Carbon disulfide | 27 | 2.4 | | ug/m3 | 5 | 1/28/2012 11:07:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Ethylbenzene | 4.2 | 0.66 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Freon 12 | 1.8 | 0.75 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| m&p-Xylene | 14 | 1.3 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Methyl Ethyl Ketone | 240 | 36 | | ug/m3 | 40 | 1/28/2012 11:40:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Methylene chloride | 1.3 | 0.53 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Naphthalene | 3.5 | 0.80 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| o-Xylene | 8.2 | 0.66 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Toluene | 36 | 2.9 | | ug/m3 | 5 | 1/28/2012 11:07:00 PM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 10:12:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG19-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 1165,60 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-010A SG19-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -20 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,2,4-Trimethylbenzene | 4.4 | 0.75 | | ppbV | 5 | 1/28/2012 11:07:00 PM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Benzene | 7.5 | 0.75 | | ppbV | 5 | 1/28/2012 11:07:00 PM |
| Carbon disulfide | 8.6 | 0.75 | | ppbV | 5 | 1/28/2012 11:07:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Ethylbenzene | 0.96 | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Freon 12 | 0.35 | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| m&p-Xylene | 3.2 | 0.30 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Methyl Ethyl Ketone | 78 | 12 | | ppbV | 40 | 1/28/2012 11:40:00 PM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Methylene chloride | 0.37 | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Naphthalene | 0.66 | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| o-Xylene | 1.8 | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Toluene | 9.3 | 0.75 | | ppbV | 5 | 1/28/2012 11:07:00 PM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 10:12:00 PM |
| Surr: Bromofluorobenzene | 93.0 | 70-130 | | %REC | 1 | 1/27/2012 10:12:00 PM |
| TIC: 1,3-Butadiene, 2-methyl- | 3.7 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: 1-Pentene | 6.4 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: 1-Propene, 2-methyl- (3.17) | 24 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: 3-Heptene | 3.3 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Butane | 10 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |

**Qualifiers:**

- ****** Reporting Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- JN Non-routine analyte. Quantitation estimated.
- S Spike Recovery outside accepted recovery limits
- . Results reported are not blank corrected
- E Value above quantitation range
- J Analyte detected at or below quantitation limits
- ND Not Detected at the Reporting Limit

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG19-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 1165,60 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-010A SG19-0120 12 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Butane, 2,2,3,3-tetramethyl- | 14 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Cyclohexane, methyl- | 4.3 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 16 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Isobutane | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Pentane, 2,3,4-trimethyl- | 4.9 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Pentane, 2-methyl- | 3.6 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Unknown (16.43) | 2.9 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Unknown (2.92) | 9.2 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Unknown (3.87) | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Unknown alkane (12.48) | 8.0 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |
| TIC: Unknown alkane (16.71) | 17 | 0 | JN | ppbV | 1 | 1/27/2012 10:12:00 PM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected | |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range | |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits | |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit | |
| | S | Spike Recovery outside accepted recovery limits | | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG2-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 192,56 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-013A SG 2-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,2,4-Trimethylbenzene | 16 | 7.5 | | ug/m3 | 10 | 1/29/2012 2:23:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Benzene | 27 | 4.9 | | ug/m3 | 10 | 1/29/2012 2:23:00 AM |
| Carbon disulfide | 14 | 4.7 | | ug/m3 | 10 | 1/29/2012 2:23:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Ethylbenzene | 6.8 | 0.66 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Freon 12 | 2.1 | 0.75 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| m&p-Xylene | 18 | 13 | | ug/m3 | 10 | 1/29/2012 2:23:00 AM |
| Methyl Ethyl Ketone | 72 | 9.0 | | ug/m3 | 10 | 1/29/2012 2:23:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Methylene chloride | 0.46 | 0.53 | J | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Naphthalene | 5.6 | 0.80 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| o-Xylene | 9.7 | 6.6 | | ug/m3 | 10 | 1/29/2012 2:23:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Toluene | 51 | 5.7 | | ug/m3 | 10 | 1/29/2012 2:23:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 11:52:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG2-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 192,56 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-013A SG2-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -4 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,2,4-Trimethylbenzene | 3.3 | 1.5 | | ppbV | 10 | 1/29/2012 2:23:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Benzene | 8.2 | 1.5 | | ppbV | 10 | 1/29/2012 2:23:00 AM |
| Carbon disulfide | 4.5 | 1.5 | | ppbV | 10 | 1/29/2012 2:23:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Ethylbenzene | 1.5 | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Freon 12 | 0.42 | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| m&p-Xylene | 4.1 | 3.0 | | ppbV | 10 | 1/29/2012 2:23:00 AM |
| Methyl Ethyl Ketone | 24 | 3.0 | | ppbV | 10 | 1/29/2012 2:23:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Methylene chloride | 0.13 | 0.15 | J | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Naphthalene | 1.1 | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| o-Xylene | 2.2 | 1.5 | | ppbV | 10 | 1/29/2012 2:23:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Toluene | 13 | 1.5 | | ppbV | 10 | 1/29/2012 2:23:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 11:52:00 PM |
| Surr: Bromofluorobenzene | 96.0 | 70-130 | | %REC | 1 | 1/27/2012 11:52:00 PM |
| TIC: 1-Propene, 2-methyl- | 18 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: 2-Butene | 2.6 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: 2-Pentene, (Z)- | 3.2 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Butane | 8.6 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Butane, 2,2,3,3-tetramethyl- $$ Et | 3.7 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG2-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 192,56 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-013A SG2-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Butane, 2-methyl- | 2.6 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 4.2 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Hexanal | 4.0 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Isobutane | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Pentanal | 3.4 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Pentane, 2-methyl- | 2.4 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Propanal, 2-methyl- | 2.3 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Unknown (12.88) | 1.9 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Unknown (16.71) | 5.6 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Unknown (4.2) | 4.2 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Unknown (4.23) | 4.4 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Unknown alkane (12.47) | 2.4 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |
| TIC: Unknown alkane (2.93) | 5.9 | 0 | JN | ppbV | 1 | 1/27/2012 11:52:00 PM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG20-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 240,123 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-004A SG20-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,2,4-Trimethylbenzene | 18 | 7.5 | | ug/m3 | 10 | 1/28/2012 8:44:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Benzene | 4.5 | 0.49 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Carbon disulfide | 2.0 | 0.47 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Ethylbenzene | 5.1 | 0.66 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Freon 12 | 1.7 | 0.75 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| m&p-Xylene | 16 | 1.3 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Methyl Ethyl Ketone | 11 | 9.0 | | ug/m3 | 10 | 1/28/2012 8:44:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Methylene chloride | 0.39 | 0.53 | J | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Naphthalene | 6.0 | 0.80 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| o-Xylene | 9.2 | 0.66 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Toluene | 29 | 5.7 | | ug/m3 | 10 | 1/28/2012 8:44:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 6:48:00 PM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG20-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 240,123 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-004A SG20-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,2,4-Trimethylbenzene | 3.7 | 1.5 | | ppbV | 10 | 1/28/2012 8:44:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Benzene | 1.4 | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Carbon disulfide | 0.64 | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Ethylbenzene | 1.2 | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Freon 12 | 0.33 | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| m&p-Xylene | 3.7 | 0.30 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Methyl Ethyl Ketone | 3.7 | 3.0 | | ppbV | 10 | 1/28/2012 8:44:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Methylene chloride | 0.11 | 0.15 | J | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Naphthalene | 1.1 | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| o-Xylene | 2.1 | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Toluene | 7.7 | 1.5 | | ppbV | 10 | 1/28/2012 8:44:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 6:48:00 PM |
| Surr: Bromofluorobenzene | 99.0 | 70-130 | | %REC | 1 | 1/27/2012 6:48:00 PM |
| TIC: 1-Propene, 2-methyl- | 20 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: 1H-Indene, 2,3-dihydro-4-methyl- | 1.0 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Benzene, 1,2,3-trimethyl- | 1.1 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Benzene, 1,3,5-trimethyl- | 0.99 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG20-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 240,123 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-004A SG20-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-ethyl-2-methyl- (16.82) | 2.4 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 1.1 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Benzene, 2-ethyl-1,4-dimethyl- | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Cyclohexane, methyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 3.1 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Hexane, 2,2-dimethyl- | 4.8 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Hexane, 3-methyl- | 0.83 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Pentane, 2,3,3-trimethyl- | 2.5 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Pentane, 2,3,4-trimethyl- | 2.1 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Pentane, 2,3-dimethyl- | 0.82 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Pentane, 2-methyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Unknown (16.44) | 2.2 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |
| TIC: Unknown (16.72) | 3.8 | 0 | JN | ppbV | 1 | 1/27/2012 6:48:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte, Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG21-211912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 170,146 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-005A SG21-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,2,4-Trimethylbenzene | 27 | 7.5 | | ug/m3 | 10 | 1/28/2012 9:17:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Benzene | 6.3 | 0.49 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Carbon disulfide | 3.9 | 0.47 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Ethylbenzene | 5.1 | 0.66 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Freon 12 | 2.1 | 0.75 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| m&p-Xylene | 17 | 1.3 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Methyl Ethyl Ketone | 57 | 9.0 | | ug/m3 | 10 | 1/28/2012 9:17:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Methylene chloride | 0.39 | 0.53 | J | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Naphthalene | 7.9 | 0.80 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| o-Xylene | 9.4 | 0.66 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Toluene | 35 | 5.7 | | ug/m3 | 10 | 1/28/2012 9:17:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 7:21:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG21-211912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 170,146 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-005A SG21-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -3 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,2,4-Trimethylbenzene | 5.5 | 1.5 | | ppbV | 10 | 1/28/2012 9:17:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Benzene | 2.0 | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Carbon disulfide | 1.2 | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Ethylbenzene | 1.2 | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Freon 12 | 0.41 | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| m&p-Xylene | 3.8 | 0.30 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Methyl Ethyl Ketone | 19 | 3.0 | | ppbV | 10 | 1/28/2012 9:17:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Methylene chloride | 0.11 | 0.15 | J | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Naphthalene | 1.5 | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| o-Xylene | 2.1 | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Toluene | 9.2 | 1.5 | | ppbV | 10 | 1/28/2012 9:17:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 7:21:00 PM |
| Surr: Bromofluorobenzene | 102 | 70-130 | | %REC | 1 | 1/27/2012 7:21:00 PM |
| TIC: .alpha.-Pinene | 2.5 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Acetaldehyde | 8.1 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Benzene, 1,2,3-trimethyl- | 1.5 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Benzene, 1,3,5-trimethyl- | 2.2 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Benzene, 1-ethyl-2,3-dimethyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG21-211912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 170,146 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-005A SG21-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-ethyl-2,4-dimethyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl-(17.12) | 3.4 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Butane | 1.3 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Cobalt, (2-methyl-.eta.-3-propenyl | 4.4 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Cyclohexane, methyl- | 2.0 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 5.3 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Hexane, 2,2-dimethyl- | 5.6 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Indan, 1-methyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Pentane, 2,3,3-trimethyl- | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Unknown (10.41) | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Unknown (18.69) | 1.3 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |
| TIC: Unknown alkane | 2.5 | 0 | JN | ppbV | 1 | 1/27/2012 7:21:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG22-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 232,179 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-016A SG22-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,2,4-Trimethylbenzene | 26 | 7.5 | | ug/m3 | 10 | 1/29/2012 4:34:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Benzene | 39 | 4.9 | | ug/m3 | 10 | 1/29/2012 4:34:00 AM |
| Carbon disulfide | 33 | 4.7 | | ug/m3 | 10 | 1/29/2012 4:34:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Chloromethane | 0.67 | 0.31 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Ethylbenzene | 6.9 | 0.66 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Freon 12 | 61 | 7.5 | | ug/m3 | 10 | 1/29/2012 4:34:00 AM |
| m&p-Xylene | 30 | 13 | | ug/m3 | 10 | 1/29/2012 4:34:00 AM |
| Methyl Ethyl Ketone | 270 | 36 | | ug/m3 | 40 | 1/29/2012 5:07:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Methylene chloride | 0.49 | 0.53 | J | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Naphthalene | 7.7 | 0.80 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| o-Xylene | 16 | 6.6 | | ug/m3 | 10 | 1/29/2012 4:34:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Toluene | 60 | 5.7 | | ug/m3 | 10 | 1/29/2012 4:34:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/28/2012 1:33:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG22-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 232,179 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-016A SG 22-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -4 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,2,4-Trimethylbenzene | 5.3 | 1.5 | | ppbV | 10 | 1/29/2012 4:34:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Benzene | 12 | 1.5 | | ppbV | 10 | 1/29/2012 4:34:00 AM |
| Carbon disulfide | 10 | 1.5 | | ppbV | 10 | 1/29/2012 4:34:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Chloromethane | 0.32 | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Ethylbenzene | 1.6 | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Freon 12 | 12 | 1.5 | | ppbV | 10 | 1/29/2012 4:34:00 AM |
| m&p-Xylene | 6.7 | 3.0 | | ppbV | 10 | 1/29/2012 4:34:00 AM |
| Methyl Ethyl Ketone | 89 | 12 | | ppbV | 40 | 1/29/2012 5:07:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Methylene chloride | 0.14 | 0.15 | J | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Naphthalene | 1.4 | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| o-Xylene | 3.6 | 1.5 | | ppbV | 10 | 1/29/2012 4:34:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Toluene | 16 | 1.5 | | ppbV | 10 | 1/29/2012 4:34:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 1:33:00 AM |
| Surr: Bromofluorobenzene | 97.0 | 70-130 | | %REC | 1 | 1/28/2012 1:33:00 AM |
| TIC: 1,3-Butadiene, 2-methyl- | 2.8 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: 1,3-Cyclohexadiene | 3.1 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: 1-Pentene, 2-methyl- | 2.9 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: 1-Propene, 2-methyl- | 19 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: 2-Butene, 2-methyl- | 4.8 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG22-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 232,179 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-016A SG22-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: 2-Heptene | 3.0 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: 2-Pentene, (Z)- | 3.5 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Butane | 8.4 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Butane, 2-methyl- | 3.0 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 3.5 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Methallyl cyanide | 9.2 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Pentane | 3.1 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Unknown (10.41) | 4.8 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Unknown (3.39) | 3.0 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Unknown (8.21) | 3.3 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Unknown alkane (2.93) | 8.4 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Unknown alkane (5.76) | 2.9 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |
| TIC: Unknown alkane (9.99) | 5.9 | 0 | JN | ppbV | 1 | 1/28/2012 1:33:00 AM |

| | | | | |
|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG23-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 463,69 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-006A SG23-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,2,4-Trimethylbenzene | 25 | 7.5 | | ug/m3 | 10 | 1/28/2012 9:49:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Benzene | 4.1 | 0.49 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Carbon disulfide | 1.8 | 0.47 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Ethylbenzene | 4.8 | 0.66 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Freon 12 | 1.8 | 0.75 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| m&p-Xylene | 17 | 1.3 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Methyl Ethyl Ketone | 30 | 9.0 | | ug/m3 | 10 | 1/28/2012 9:49:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Methylene chloride | 0.46 | 0.53 | J | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Naphthalene | 11 | 0.80 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| o-Xylene | 10 | 0.66 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Toluene | 22 | 5.7 | | ug/m3 | 10 | 1/28/2012 9:49:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 7:55:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG23-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 463,69 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-006A SG23-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -1 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,2,4-Trimethylbenzene | 5.1 | 1.5 | | ppbV | 10 | 1/28/2012 9:49:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Benzene | 1.3 | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Carbon disulfide | 0.56 | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Ethylbenzene | 1.1 | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Freon 12 | 0.36 | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| m&p-Xylene | 3.8 | 0.30 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Methyl Ethyl Ketone | 9.9 | 3.0 | | ppbV | 10 | 1/28/2012 9:49:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Methylene chloride | 0.13 | 0.15 | J | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Naphthalene | 2.0 | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| o-Xylene | 2.3 | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Toluene | 5.8 | 1.5 | | ppbV | 10 | 1/28/2012 9:49:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 7:55:00 PM |
| Surr: Bromofluorobenzene | 96.0 | 70-130 | | %REC | 1 | 1/27/2012 7:55:00 PM |
| TIC: (1R)-2,6,6-Trimethylbicyclo[3.1.1] | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: 1-Propene, 2-methyl- | 6.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Benzene, (2-methyl-2-propenyl)- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Benzene, 1,2,3-trimethyl- | 2.4 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG23-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 463,69 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-006A SG23-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1,3,5-trimethyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Benzene, 1-ethyl-2-methyl- | 1.5 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Benzene, 1-ethyl-3-methyl- | 2.2 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 1.1 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Benzene, 1-methyl-3-(1-methylethyl | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Benzene, 4-ethyl-1,2-dimethyl- | 2.0 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Butane | 11 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Butane, 2-methyl- | 2.1 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Cyclohexane, methyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 5.2 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Pentane, 2,2,4-trimethyl- | 3.4 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Pentane, 2,3,3-trimethyl- | 2.5 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Pentane, 2,3,4-trimethyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Pentane, 2-methyl- | 2.1 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |
| TIC: Unknown alkane | 5.6 | 0 | JN | ppbV | 1 | 1/27/2012 7:55:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG24-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 364,121 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-007A SG24-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,2,4-Trimethylbenzene | 19 | 7.5 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Benzene | 10 | 4.9 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Carbon disulfide | 1.3 | 0.47 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Ethylbenzene | 6.9 | 0.66 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Freon 12 | 2.0 | 0.75 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| m&p-Xylene | 23 | 13 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Methyl Ethyl Ketone | 40 | 9.0 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Methylene chloride | 0.56 | 0.53 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Naphthalene | 3.9 | 0.80 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| o-Xylene | 13 | 6.6 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Toluene | 34 | 5.7 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG24-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 364,121 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-007A SG24-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -5 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,2,4-Trimethylbenzene | 3.9 | 1.5 | | ppbV | 10 | 1/28/2012 8:22:00 PM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Benzene | 3.1 | 1.5 | | ppbV | 10 | 1/28/2012 8:22:00 PM |
| Carbon disulfide | 0.40 | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Ethylbenzene | 1.6 | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Freon 12 | 0.39 | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| m&p-Xylene | 5.3 | 3.0 | | ppbV | 10 | 1/28/2012 8:22:00 PM |
| Methyl Ethyl Ketone | 13 | 3.0 | | ppbV | 10 | 1/28/2012 8:22:00 PM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Methylene chloride | 0.16 | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Naphthalene | 0.74 | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| o-Xylene | 2.9 | 1.5 | | ppbV | 10 | 1/28/2012 8:22:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Toluene | 9.0 | 1.5 | | ppbV | 10 | 1/28/2012 8:22:00 PM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 8:28:00 PM |
| Surr: Bromofluorobenzene | 92.0 | 70-130 | | %REC | 1 | 1/27/2012 8:28:00 PM |
| TIC: (1R)-2,6,6-Trimethylbicyclo[3.1.1] | 1.9 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Benzene, 1,2,3-trimethyl- | 2.4 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Benzene, 1,3,5-trimethyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Benzene, 1-ethyl-2,3-dimethyl- | 2.1 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG24-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 364,121 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-007A SG24-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Benzene, 1-ethyl-2-methyl- (16.82) | 3.8 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Benzene, 1-methyl-2-(1-methylethyl | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Benzene, 1-methyl-4-(1-methylpropy | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Butanal, 3-methyl- | 1.2 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Cyclohexane, methyl- | 1.8 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 3.6 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Indan, 1-methyl- | 1.6 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Pentane, 2,2,4-trimethyl- | 4.9 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Pentane, 2,3,3-trimethyl- | 2.9 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Pentane, 2,3,4-trimethyl- | 2.1 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Pentane, 2-methyl- | 1.5 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Unknown (16.71) | 3.2 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Unknown (18.69) | 1.4 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |
| TIC: Unknown (3.17) | 5.9 | 0 | JN | ppbV | 1 | 1/27/2012 8:28:00 PM |

| Qualifiers: | | | | |
|---|---|---|---|---|
| | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG25-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 421,302 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-008A SG25-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,2,4-Trimethylbenzene | 2.4 | 0.75 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,2-Dichloroethane | 0.70 | 0.62 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Benzene | 1.4 | 0.49 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Carbon disulfide | 0.60 | 0.47 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Chloroform | 0.50 | 0.74 | J | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Ethylbenzene | 2.3 | 0.66 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Freon 12 | 2.3 | 0.75 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| m&p-Xylene | 5.0 | 1.3 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Methyl Ethyl Ketone | 22 | 4.5 | | ug/m3 | 5 | 1/28/2012 8:54:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Methylene chloride | 5.7 | 0.53 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Naphthalene | 1.0 | 0.80 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| o-Xylene | 2.0 | 0.66 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Toluene | 270 | 23 | | ug/m3 | 40 | 1/28/2012 9:27:00 PM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 9:01:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG25-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 421,302 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-008A SG25-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -5 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,2,4-Trimethylbenzene | 0.49 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,2-Dichloroethane | 0.17 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Benzene | 0.42 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Carbon disulfide | 0.19 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Chloroform | 0.10 | 0.15 | J | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Ethylbenzene | 0.52 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Freon 12 | 0.46 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| m&p-Xylene | 1.1 | 0.30 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Methyl Ethyl Ketone | 7.2 | 1.5 | | ppbV | 5 | 1/28/2012 8:54:00 PM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Methylene chloride | 1.6 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Naphthalene | 0.19 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| o-Xylene | 0.45 | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Toluene | 69 | 6.0 | | ppbV | 40 | 1/28/2012 9:27:00 PM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 9:01:00 PM |
| Surr: Bromofluorobenzene | 93.0 | 70-130 | | %REC | 1 | 1/27/2012 9:01:00 PM |
| TIC: .alpha.-Pinene | 0.67 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Acetaldehyde | 0.96 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Benzoic acid, 2-[(trimethylsilyl)o | 1.1 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Butane | 2.2 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Butane, 2,2,3,3-tetramethyl- | 0.62 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG25-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 421,302 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-008A SG25-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Butane, 2,3-dimethyl- | 1.0 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Butane, 2-methyl- | 6.3 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Cyclohexane, 1,2,4-trimethyl , (1. | 0.72 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Cyclohexane, methyl- | 0.77 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 3.8 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Isobutane | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Limonene | 3.0 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Pentane, 3-methyl- | 1.1 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Unknown (16.71) | 4.8 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Unknown (9.13) | 0.59 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |
| TIC: Unknown alkane | 1.0 | 0 | JN | ppbV | 1 | 1/27/2012 9:01:00 PM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG3-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 215,79 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-014A 563-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,2,4-Trimethylbenzene | 14 | 3.7 | | ug/m3 | 5 | 1/27/2012 4:01:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Benzene | 18 | 2.4 | | ug/m3 | 5 | 1/27/2012 4:01:00 PM |
| Carbon disulfide | 15 | 2.4 | | ug/m3 | 5 | 1/27/2012 4:01:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Chloromethane | 0.55 | 0.31 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Ethylbenzene | 5.2 | 0.66 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Freon 12 | 1.8 | 0.75 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| m&p-Xylene | 16 | 1.3 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Methyl Ethyl Ketone | 38 | 36 | | ug/m3 | 40 | 1/27/2012 4:34:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Methylene chloride | ND | 0.53 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Naphthalene | 4.5 | 0.80 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| o-Xylene | 8.3 | 0.66 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Toluene | 32 | 2.9 | | ug/m3 | 5 | 1/27/2012 4:01:00 PM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 2:18:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG3-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 215,79 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-014A SG3-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -4 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,2,4-Trimethylbenzene | 2.9 | 0.75 | | ppbV | 5 | 1/27/2012 4:01:00 PM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Benzene | 5.5 | 0.75 | | ppbV | 5 | 1/27/2012 4:01:00 PM |
| Carbon disulfide | 4.8 | 0.75 | | ppbV | 5 | 1/27/2012 4:01:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Chloromethane | 0.26 | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Ethylbenzene | 1.2 | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Freon 12 | 0.35 | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| m&p-Xylene | 3.5 | 0.30 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Methyl Ethyl Ketone | 13 | 12 | | ppbV | 40 | 1/27/2012 4:34:00 PM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Methylene chloride | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Naphthalene | 0.85 | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| o-Xylene | 1.9 | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Toluene | 8.2 | 0.75 | | ppbV | 5 | 1/27/2012 4:01:00 PM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 2:18:00 PM |
| Surr: Bromofluorobenzene | 100 | 70-130 | | %REC | 1 | 1/27/2012 2:18:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG4-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 495,53 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-017A SG4-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,2,4-Trimethylbenzene | 9.9 | 0.75 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Benzene | 22 | 4.9 | | ug/m3 | 10 | 1/29/2012 5:39:00 AM |
| Carbon disulfide | ND | 0.47 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| cis-1,2-Dichloroethene | 3.7 | 0.60 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Ethylbenzene | 4.9 | 0.66 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Freon 12 | 0.90 | 0.75 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| m&p-Xylene | 16 | 1.3 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Methyl Ethyl Ketone | 61 | 9.0 | | ug/m3 | 10 | 1/29/2012 5:39:00 AM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Methylene chloride | ND | 0.53 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Naphthalene | ND | 0.80 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| o-Xylene | 8.4 | 0.66 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Toluene | 36 | 5.7 | | ug/m3 | 10 | 1/29/2012 5:39:00 AM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Trichloroethene | 1.3 | 0.22 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |
| Vinyl chloride | 2.8 | 0.10 | | ug/m3 | 1 | 1/28/2012 2:07:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG4-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 495,53 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-017A SG4-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | -4 | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,2,4-Trimethylbenzene | 2.0 | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Benzene | 6.7 | 1.5 | | ppbV | 10 | 1/29/2012 5:39:00 AM |
| Carbon disulfide | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| cis-1,2-Dichloroethene | 0.91 | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Ethylbenzene | 1.1 | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Freon 12 | 0.18 | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| m&p-Xylene | 3.5 | 0.30 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Methyl Ethyl Ketone | 20 | 3.0 | | ppbV | 10 | 1/29/2012 5:39:00 AM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Methylene chloride | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Naphthalene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| o-Xylene | 1.9 | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Toluene | 9.3 | 1.5 | | ppbV | 10 | 1/29/2012 5:39:00 AM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Trichloroethene | 0.24 | 0.040 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Vinyl chloride | 1.1 | 0.040 | | ppbV | 1 | 1/28/2012 2:07:00 AM |
| Surr: Bromofluorobenzene | 87.0 | 70-130 | | %REC | 1 | 1/28/2012 2:07:00 AM |
| TIC: Butane | 9.5 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Butane, 2,3-dimethyl- | 4.8 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Butane, 2-methyl- (4.26) | 11 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Cyclohexane, 1,1,3-trimethyl | 5.1 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Cyclohexane, 1,1-dimethyl- | 4.8 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG4-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 495,53 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-017A SG4-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| TIC: Cyclohexane, 1,3-dimethyl-, cis- | 4.4 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Cyclopentane, methyl- | 4.2 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Cyclopropane, 1,2-dimethyl-, trans | 3.6 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Cyclotrisiloxane, hexamethyl | 6.5 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Hexane, 2,2-dimethyl- | 5.0 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Isobutane | 9.8 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Pentane | 4.9 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Pentane, 2,3,3-trimethyl- $$ 2,3,3 | 8.5 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Pentane, 2-methyl- | 13 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Pentane, 3-methyl- | 6.8 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Unknown (3.91) | 3.5 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |
| TIC: Unknown (5.08) | 4.3 | 0 | JN | ppbV | 1 | 1/28/2012 2:07:00 AM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | TB-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 131 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-023A TB-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: **RJP** |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,2,4-Trimethylbenzene | ND | 0.75 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Benzene | ND | 0.49 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Carbon disulfide | ND | 0.47 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Ethylbenzene | ND | 0.66 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Freon 12 | ND | 0.75 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| m&p-Xylene | ND | 1.3 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Methyl Ethyl Ketone | ND | 0.90 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Methylene chloride | ND | 0.53 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Naphthalene | ND | 0.80 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| o-Xylene | ND | 0.66 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Toluene | ND | 0.57 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 1:45:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Centek Laboratories, LLC

**Date:** *03-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | TB-011012 |
| **Lab Order:** | C1201051 | **Tag Number:** | 131 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/20/2012 |
| **Lab ID:** | C1201051-023A TB-012012 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **FIELD PARAMETERS** | | FLD | | | | Analyst: |
| Lab Vacuum In | | | | "Hg | | 1/24/2012 |
| Lab Vacuum Out | -30 | | | "Hg | | 1/24/2012 |
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | TO-15 | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,1,2-Trichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,1-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,1-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,2,4-Trimethylbenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,2-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,2-Dichloroethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,3-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| 1,4-Dichlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Benzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Carbon disulfide | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Carbon tetrachloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Chlorobenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Chloroform | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Chloromethane | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| cis-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Ethylbenzene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Freon 12 | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| m&p-Xylene | ND | 0.30 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Methyl Ethyl Ketone | ND | 0.30 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Methyl tert-butyl ether | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Methylene chloride | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Naphthalene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| o-Xylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Tetrachloroethylene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Toluene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| trans-1,2-Dichloroethene | ND | 0.15 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Trichloroethene | ND | 0.040 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Vinyl chloride | ND | 0.040 | | ppbV | 1 | 1/27/2012 1:45:00 PM |
| Surr: Bromofluorobenzene | 96.0 | 70-130 | | %REC | 1 | 1/27/2012 1:45:00 PM |
| TIC: Cyclotrisiloxane, hexamethyl | 0.24 | 0 | JN | ppbV | 1 | 1/27/2012 1:45:00 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| ** | Reporting Limit | . | Results reported are not blank corrected |
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| S | Spike Recovery outside accepted recovery limits | | |

**Appendix C**

Support Documentation

# TO-15 Package Review Checklist

Client: Tetra-Tech Project: Martin State SDG: C1201057 & C1201063

| | | YES | NO | NA |
|---|---|---|---|---|
| Analytical Results | Present and Complete | ✓ | | |
| TIC's present | Present and Complete | ✓ | | |
| | Holding Times Met | ✓ | | |

Comments:

| | | | | |
|---|---|---|---|---|
| Chain-of-Custody | Present and Complete | ✓ | | |
| Surrogate Recovery | Present and Complete | ✓ | | |
| | Recoveries within limits | ✓ | | |
| | Sample(s) reanalyzed | | | ✓ |
| Internal Standards Recovery | Present and Complete | ✓ | | |
| | Recoveries within limits | ✓ | | |
| | Sample(s) reanalyzed | | | ✓ |

Comments:

| | | | | |
|---|---|---|---|---|
| Lab Control Sample (LCS) | Present and Complete | ✓ | | |
| | Recoveries within limits | | ✓ | |
| Lab Control Sample Dupe (LCSD) | Present and Complete | ✓ | | |
| | Recoveries within limits | | ✓ | |
| MS/MSD | Present and Complete | ✓ | | |
| | Recoveries within limits | | ✓ | |

Comments: *SEE CASE NARRATIVE

| | | | | |
|---|---|---|---|---|
| Sample Raw Data | Present and Complete | | | |
| | Spectra present for all samples | | | |

Comments:

# TO-15 Package Review Checklist

Client: Tetra-Tech Project: Martin State SDG: C1201057

| | | YES | NO | NA |
|---|---|---|---|---|
| **Standards Data** | | | | |
| Initial Calibration Summary | Present and Complete | ✓ | | |
| | Calibration(s) met criteria | ✓ | | |
| Continuing Calibration Summary | Present and Complete | ✓ | | |
| | Calibration(s) met criteria | ✓ | | |
| Standards Raw Data | Present and Complete | ✓ | | |

Comments:

| | | | | |
|---|---|---|---|---|
| **Raw Quality Control Data** | | ✓ | | |
| Tune Criteria Report | Present and Complete | ✓ | | |
| Method Blank Data | MB Results <PQL | ✓ | | |
| | Associated results flagged "B" | | | ✓ |
| LCS sample data | Present and Complete | ✓ | | |
| LCSD sample data | Present and Complete | ✓ | | |
| MS/MSD sample data | Present and Complete | ✓ | | |

Comments:

| | | | | |
|---|---|---|---|---|
| **Logbooks** | | | | |
| Injection Log | Present and Complete | ✓ | | |
| Standards Log | Present and Complete | ✓ | | |
| Can Cleaning Log | Present and Complete | ✓ | | |
| | Raw Data Present | ✓ | | |
| Calculation sheet | Present and Complete | ✓ | | |
| IDL's | Present and Complete | ✓ | | |
| Bottle Order Form | Present and Complete | ✓ | | |
| Sample Tracking Form | Present and Complete | ✓ | | |

Additional Comments:
*SEE CASE NARRATIVE

Section Supervisor: [signature] Date: 2/6/12

QC Supervisor: [signature] Date: 2/6/12

# CENTEK LABORATORIES, LLC

**Date:** *03-Feb-12*

**CLIENT:** Tetra Tech

**Project:** Maryland MartinAir Middle River 112IC03634

**Lab Order:** C1201051

## CASE NARRATIVE

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination. Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999.

See Corrective Action: [2366] Very little sample collected
See Corrective Action: [2374] MS/MSD did not meet criteria.
See Corrective Action: [2375] LCS & LCSD did not meet criteria.

# CENTEK LABORATORIES, LLC

**Date:** *03-Feb-12*

**CLIENT:** Tetra Tech

**Project:** Maryland MartinAir Middle River 112IC0634

**Lab Order:** C1201063

## CASE NARRATIVE

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination. Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999.

See Corrective Action: [2374] MS/MSD did not meet criteria.
See Corrective Action: [2375] LCS & LCSD did not meet criteria.

## Centek Laboratories, LLC

## Corrective Action Report

**Date Initiated:** 24-Jan-12 **Corrective Action Report ID:** 2366

**Initiated By:** Janice Scala **Department:** LOGIN

### Corrective Action Description

**CAR Summary:** Very little sample collected

**Description of Nonconformance:** Sample C1201051-010 had very little sample collected

**Description of Corrective Action:** lab will attempt to analyze

**Performed By:** Janice Scala **Completion Date:** 24-Jan-12

### Client Notification

**Client Notification Required:** No **Notified By:**

**Comment:**

### Quality Assurance Review

**Nonconformance Type:** Anomaly

**Further Action required by QA:** no action required

### Approval and Closure

Technical Director / Deputy Tech. Dir.: William Dobbin **Close Date:** 24-Jan-12

QA Officer Approval: Russell Pellegrino **QA Date:** 24-Jan-12

Last Updated BY russ2 Updated: 03-Feb-2012 5:18 PM Reported: 03-Feb-2012 5:18 PM

**CENTEK LABORATORIES, LLC**

**Date:** *03-Feb-12*

**CLIENT:** Tetra Tech
**Project:** Maryland MartinAir Middle River 112IC0634
**Lab Order:** C1201063

## Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Tag Number | Collection Date | Date Received |
|---|---|---|---|---|
| C1201063-001A | IA1-012512 | 368,266 | 1/25/2012 | 1/27/2012 |
| C1201063-002A | IA2-012512 | 159,374 | 1/25/2012 | 1/27/2012 |
| C1201063-003A | IA3-012512 | 430,267 | 1/25/2012 | 1/27/2012 |

**CENTEK LABORATORIES, LLC**

**Date:** *03-Feb-12*

**CLIENT:** Tetra Tech
**Project:** Maryland MartinAir Middle River 112IC03634
**Lab Order:** C1201051

## Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Tag Number | Collection Date | Date Received |
|---|---|---|---|---|
| C1201051-001A | SG11-011912 | 233,65 | 1/19/2012 | 1/24/2012 |
| C1201051-002A | SG10-011912 | 554,80 | 1/19/2012 | 1/24/2012 |
| C1201051-003A | SG12-011912 | 163,177 | 1/19/2012 | 1/24/2012 |
| C1201051-004A | SG20-011912 | 240,123 | 1/19/2012 | 1/24/2012 |
| C1201051-005A | SG21-011912 | 170,146 | 1/19/2012 | 1/24/2012 |
| C1201051-006A | SG23-011912 | 463,69 | 1/19/2012 | 1/24/2012 |
| C1201051-007A | SG24-011912 | 364,121 | 1/19/2012 | 1/24/2012 |

| | |
|---|---|
| **CLIENT:** | Tetra Tech |
| **Project:** | Maryland MartinAir Middle River 112IC03634 |
| **Lab Order:** | C1201051 |

## Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Tag Number | Collection Date | Date Received |
|---|---|---|---|---|
| C1201051-008A | SG25-011912 | 421,302 | 1/19/2012 | 1/24/2012 |
| C1201051-009A | SG18-011912 | 200,54 | 1/19/2012 | 1/24/2012 |
| C1201051-010A | SG19-011912 | 1165,60 | 1/20/2012 | 1/24/2012 |
| C1201051-011A | SG13-011912 | 161,381 | 1/20/2012 | 1/24/2012 |
| C1201051-012A | SG09-011912 | 332,78 | 1/20/2012 | 1/24/2012 |
| C1201051-013A | SG2-011912 | 192,56 | 1/20/2012 | 1/24/2012 |
| C1201051-014A | SG3-011912 | 215,79 | 1/20/2012 | 1/24/2012 |
| C1201051-015A | SG1-011912 | 558,249 | 1/20/2012 | 1/24/2012 |

**CLIENT:** Tetra Tech
**Project:** Maryland MartinAir Middle River 112IC03634
**Lab Order:** C1201051

## Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Tag Number | Collection Date | Date Received |
|---|---|---|---|---|
| C1201051-016A | SG22-010012 | 232,179 | 1/20/2012 | 1/24/2012 |
| C1201051-017A | SG4-010012 | 495,53 | 1/20/2012 | 1/24/2012 |
| C1201051-018A | SG08-010012 | 471,339 | 1/20/2012 | 1/24/2012 |
| C1201051-019A | SG14-010012 | 547,57 | 1/20/2012 | 1/24/2012 |
| C1201051-020A | SG17-010012 | 561,118 | 1/20/2012 | 1/24/2012 |
| C1201051-021A | SG15-010012 | 353,402 | 1/20/2012 | 1/24/2012 |
| C1201051-022A | SG07-010012 | 328,126 | 1/20/2012 | 1/24/2012 |
| C1201051-023A | TB-010012 | 131 | 1/20/2012 | 1/24/2012 |

## Centek Laboratories, LLC

## Corrective Action Report

**Date Initiated:** 27-Jan-12 **Corrective Action Report ID:** 2374

**Initiated By:** Russell Pellegrino **Department:** MSVOA

### Corrective Action Description

**CAR Summary:** MS/MSD did not meet criteria.

**Description of Nonconformance:** MS/MSD did not meet criteria for samples C1201051-014 MS/MSD. Based on the chromatographic evidence this is most likely due to matrix interference.

**Description of Corrective Action:** Since MS/MSD show similar results at this time no further corrective action taken. All other QC meets criteria. The samples show many hits in the matrix which will interfere with spike results. All sets of data submitted

**Performed By:** Russell Pellegrino **Completion Date:** 29-Jan-12

### Client Notification

**Client Notification Required:** No **Notified By:**

**Comment:**

### Quality Assurance Review

**Nonconformance Type:** Deficiency

**Further Action required by QA:** No further corrective action taken. All sets of data submitted

### Approval and Closure

Technical Director / Deputy Tech. Dir.: William Dobbin **Close Date:** 31-Jan-12

QA Officer Approval: Nick Scala **QA Date:** 31-Jan-12

Last Updated BY russ2 Updated: 03-Feb-2012 4:58 PM Reported: 03-Feb-2012 4:58 PM

# Centek Laboratories, LLC

## Corrective Action Report

**Date Initiated:** 28-Jan-12 **Corrective Action Report ID:** 2375

**Initiated By:** Russell Pellegrino **Department:** MSVOA

## Corrective Action Description

**CAR Summary:** LCS & LCSD did not meet criteria.

**Description of Nonconformance:** ALCS1UGD-012812 did not meet criteria for RPD and % recoveries for several compounds. The LCSD did not reproduce. All other QC met criteria for the compounds of interest. The LCS 6 Liter canister was independent of the 6 Liter continuing calibration canister.

**Description of Corrective Action:** Since all other QC met criteria for the associated samples and the LCS 6 Liter canister was independent of the 6 Liter continuing calibration canister, no corrective action taken at this time. If results continue to be outside established limits then a new LCS stock standard will be analyzed. All sets of data submitted.

**Performed By:** Russell Pellegrino **Completion Date:** 31-Jan-12

## Client Notification

**Client Notification Required:** No **Notified By:**

**Comment:**

## Quality Assurance Review

**Nonconformance Type:** Deficiency

**Further Action required by QA:** A new LCS stock standard will be analyzed. All sets of data submitted.

## Approval and Closure

Technical Director / Deputy Tech. Dir.: William Dobbin **Close Date:** 01-Feb-12

QA Officer Approval: Nick Scala **QA Date:** 01-Feb-12

Last Updated BY russ2 Updated: 03-Feb-2012 5:02 PM Reported: 03-Feb-2012 5:02 PM

## Centek Laboratories, LLC

### Sample Receipt Checklist

Client Name: TETRA TECH - ATLANTA | Date and Time Received: 1/24/2012

Work Order Number C1201051 | Received by: JDS

Checklist completed by: [signature] Signature | 1/24/12 Date | Reviewed by: No Initials | 1/24/12 Date

Matrix: | Carrier name: FedEx

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shippping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| Custody seals intact on sample bottles? | Yes ☑ | No ☐ | Not Present ☐ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☐ | No ☑ | |
| All samples received within holding time? | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Water - VOA vials have zero headspace? | No VOA vials submitted ☑ | Yes ☐ | No ☐ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | |

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

# Centek Chain of Custody

Centek Laboratories

143 Midler Park Drive
Syracuse, NY 13206
315-431-9730
www.CentekLabs.com

*Vapor Intrusion & IAQ*

Site Name: Martin State
Project: 1/2 IC 03634
PO#:
Quote # Q-
Other:

**Detection Limit**
- ☐ 5ppbv
- ☐ 1ug/M3
- ☐ 1ug/M3 +TCE .25

**Report Level**
- ☐ Level I
- ☐ Level II
- ☐ Cat "B" Like

| Turnaround Time: | Check One | Rush TAT Surcharge % | Due Date: |
|---|---|---|---|
| 5 Business Days | ☐ | 0% | |
| 4 Business Days | ☐ | 25% | |
| 3 Business Days | ☐ | 50% | |
| 2 Business Days | ☐ | 75% | |
| Next Day by 5pm | ☐ | 100% | |
| Next Day by Noon | ☐ | 150% | |
| Same Day | ☐ | 200% | |

Company: Tetra Tech
Report to:
Address: 20251 Century Blvd
City, State, Zip Germantown MD 20874
Email:
Phone: 301 528-3021

Company:
Check Here If Same: ☒
Invoice to:
Address:
City, State, Zip
Email:
Phone:

| Sample ID | Date Sampled | Canister Number | Regulator Number | Analysis Request | Comments End PSI | Comments Begin | Vacuum Start/Stop | |
|---|---|---|---|---|---|---|---|---|
| SG11 - 011912 | 1-19-12 | 223 | 65 | VOCs | -4 | -30 | 0910 / 0940 | |
| SG10 - 011912 | | 554 | 80 | | -3 | -30 | 0955 / 1025 | |
| SG12 - 011912 | | 163 | 177 | | -5 | -30 | 1043 / 1143 | |
| SG20 - 011912 | | 240 | 123 | | -1 | -30 | 1208 / 1238 | |
| SG21 - 011912 | | 170 | 146 | | -3 | -30 | 1250 / 1320 | |
| SG23 - 011912 | | 463 | 69 | | -0 | -30 | 1331 / 1401 | |
| SG24 - 011912 | | 364 | 121 | | -5 | -30 | 1413 / 1443 | |
| SG25 - 011912 | | 421 | 302 | | -5 | -30 | 1456 / 1526 | |
| SG18 - 011912 | | 200 | 54 | | -5 | -30 | 1553 / 1623 | |
| SG19 - 012012 | 1-20-12 | 165 | 60 | | -23 | -30 | 0825 / 0855 | |
| SG13 - 012012 | | 161 | 381 | | -4 | -30 | 0911 / 0941 | |
| SG09 - 012012 | | 332 | 78 | | [redacted]-10 | -30 | 0954 / 1040 | |
| SG2 - 012012 | | 192 | 56 | | -4 | -30 | 1002 / 1032 | |
| SG3 - 012012 | | 215[redacted] | [redacted]79 | | -4 | -40 | 1056 / 1126 | ms/msd |
| SG1 - 012012 | | 558 | 249 | | -2 | -30 | 1136 / 1206 | |
| SG22 - 012012 | | 232 | 179 | | -4 | -30 | 1224 / 1254 | |
| SG4 - 012012 | | 495 | 53 | | -4 | -30 | 1307 / 1407 | |
| SG08 - 012012 | | 471 | 339 | | -1 | -30 | 1313 / # 1343 | |

| Chain of Custody | Print Name | Signature | Date/Time | Courier: CIRCLE ONE |
|---|---|---|---|---|
| Sampled by: | Walt Payon | Walt | 1-23-12 | FedEx UPS Pickup/Dropoff |
| Relinquished by: | | | | For LAB USE ONLY |
| Received at Lab by: | Jan Scala | Jan Scala | 1/24/12 | Work Order # C1201057 |

*** By signing Centek Labs Chain of Custody, you are accepting Centek Labs Terms and Conditions listed on the reverse side.

# Centek Chain of Custody

Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
315-431-9730
www.CentekLabs.com

*Vapor Intrusion & IAQ*

Site Name: MSA
Project:
PO#:
Quote # Q- 1455
Other:

| Detection Limit | Report Level |
|---|---|
| ☐ 5ppbv | ☐ Level I |
| ☐ 1ug/M3 | ☐ Level II |
| ☐ 1ug/M3 +TCE .25 | ☐ Cat "B" Like |

| Turnaround Time: | Check One | Rush TAT Surcharge % | Due Date: |
|---|---|---|---|
| 5 Business Days | ☐ | 0% | |
| 4 Business Days | ☐ | 25% | |
| 3 Business Days | ☐ | 50% | |
| 2 Business Days | ☐ | 75% | |
| Next Day by 5pm | ☐ | 100% | |
| Next Day by Noon | ☐ | 150% | |
| Same Day | ☐ | 200% | |

Company: Tetra Tech

*Report to:*
Address: 20251 Century Blvd
City, State, Zip Germantown MD 20874
Email:
Phone: 301 528-3021

Company:
*Check Here If Same:* ☑

*Invoice to:*
Address:
City, State, Zip
Email:
Phone:

| Sample ID | Date Sampled | Canister Number | Regulator Number | Analysis Request | Comments Begin | Comments End | Vacuum Start/Stop |
|---|---|---|---|---|---|---|---|
| SG14-012012 ✓ | 1-20-12 | 547 | 57 | VOCs | -24 | -1 | 1352 / 1423 |
| SG17-012012 ✓ | ↓ | 561 | 118 | ↓ | -27 | -4 | 1430 / 1500 |
| SG15-012012 ✓ | | 353 | 402 | | -29 | -1 | 1440 / 1510 |
| SG07-012012 ✓ | | 328 | 126 | | -30 | -1 | 1508 / 1538 |
| TB-011912 ✓ | | 131 | | | | | 0000 |

| Chain of Custody | Print Name | Signature | Date/Time | Courier: CIRCLE ONE |
|---|---|---|---|---|
| Sampled by: | Walt Payson | | 1-23-12 | FedEx UPS Pickup/Dropoff |
| Relinquished by: | | | | For LAB USE ONLY |
| Received at Lab by: | Jan Sala | | 1/24/12 | Work Order # A120151 |

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# Centek Chain of Custody

Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
315-431-9730
www.CentekLabs.com

*Vapor Intrusion & IAQ*

Site Name: MARTIN STATE AIRPORT
Project: MUNITIONS AREA SOIL VAPOR
PO#:
Quote # Q-
Other:

| Detection Limit | Report Level |
|---|---|
| ☐ 5ppbv | ☐ Level I |
| ☐ 1ug/M3 | ☐ Level II |
| ☐ 1ug/M3 +TCE .25 | ☐ Cat "B" Like |

| Turnaround Time: | Check One | Rush TAT Surcharge % | Due Date: |
|---|---|---|---|
| 5 Business Days | ☑ | 0% | |
| 4 Business Days | ☐ | 25% | |
| 3 Business Days | ☐ | 50% | |
| 2 Business Days | ☐ | 75% | |
| Next Day by 5pm | ☐ | 100% | |
| Next Day by Noon | ☐ | 150% | |
| Same Day | ☐ | 200% | |

Company: TETRA TECH

*Report to:*
Address: 20251 CENTURY BLVD SUITE 200
City, State, Zip GERMANTOWN, MD. 20874
Email: tony.apanavage@tetratech.com
Phone: 3012338230

Company:
*Check Here If Same:* ☒

*Invoice to:*
Address:
City, State, Zip
Email:
Phone:

| Sample ID | Date Sampled | Canister Number | Regulator Number | Analysis Request | Comments PRESSURE BEGIN | Comments PRESSURE END | Vacuum Start/Stop | |
|---|---|---|---|---|---|---|---|---|
| IA1-012512 | 1/25/12 | 368 | 266 | TO15 | -30 | -0 | 0755 | 1555 |
| IA2-012512 | 1/25/12 | 159 | 374 | TO15 | -30 | -0 | 0756 | 1556 |
| IA3-012512 | 1/25/12 | 430 | 267 | TO15 | -30 | -0 | 0800 | 1600 |

| Chain of Custody | Print Name | Signature | Date/Time |
|---|---|---|---|
| Sampled by: | Anthony Apanavage | | 1/26/12 1700 |
| Relinquished by: | | | |
| Received at Lab by: | NICK MANDARINO | | 1/27/12 10:5 |

Courier: CIRCLE ONE
~~FedEx~~ UPS Pickup/Dropoff

For LAB USE ONLY
Work Order # C1201063

*** By signing Centek Labs Chain of Custody, you are accepting Centek Labs Terms and Conditions listed on the reverse side.

# CENTEK LABORATORIES, LLC

## Sample Receipt Checklist

Client Name: TETRA TECH - ATLANTA | Date and Time Received: 1/27/2012

Work Order Number: C1201063 | Received by: NM

Checklist completed by: [signature] (Signature) 1/27/12 (Date) | Reviewed by: NM (Initials) 1/27/12 (Date)

Matrix: | Carrier name: FedEx

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shippping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Water - VOA vials have zero headspace? | No VOA vials submitted ☑ | Yes ☐ | No ☐ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☑ | |

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section bel

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

# HOLDTIME

**SDG** C1201051

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | UG/M3 | SG11-011912 | C1201051-001A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG07-011012 | C1201051-022A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG15-011012 | C1201051-021A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG15-011012 | C1201051-021A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG14-011012 | C1201051-019A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG14-011012 | C1201051-019A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG13-011012 | C1201051-011A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG13-011012 | C1201051-011A | NM | 1/20/2012 | 1/27/2012 | 1/27/2012 | 7 | 0 | 7 |
| OV | UG/M3 | SG12-011912 | C1201051-003A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG17-011012 | C1201051-020A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG11-011912 | C1201051-001A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG18-011912 | C1201051-009A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG1-011012 | C1201051-015A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG1-011012 | C1201051-015A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG10-011912 | C1201051-002A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | UG/M3 | SG10-011912 | C1201051-002A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG09-011012 | C1201051-012A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG09-011012 | C1201051-012A | NM | 1/20/2012 | 1/27/2012 | 1/27/2012 | 7 | 0 | 7 |
| OV | UG/M3 | SG08-011012 | C1201051-018A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG08-011012 | C1201051-018A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG07-011012 | C1201051-022A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG12-011912 | C1201051-003A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG22-011012 | C1201051-016A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG4-011012 | C1201051-017A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG4-011012 | C1201051-017A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG3-011012 | C1201051-014A | NM | 1/20/2012 | 1/27/2012 | 1/27/2012 | 7 | 0 | 7 |
| OV | UG/M3 | SG25-011912 | C1201051-008A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG25-011912 | C1201051-008A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG24-011912 | C1201051-007A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG24-011912 | C1201051-007A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG23-011912 | C1201051-006A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG17-011012 | C1201051-020A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG22-011012 | C1201051-016A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | UG/M3 | TB-011012 | C1201051-023A | NM | 1/20/2012 | 1/27/2012 | 1/27/2012 | 7 | 0 | 7 |
| OV | UG/M3 | SG21-211912 | C1201051-005A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG21-211912 | C1201051-005A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG2-011012 | C1201051-013A | NM | 1/20/2012 | 1/29/2012 | 1/29/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG2-011012 | C1201051-013A | NM | 1/20/2012 | 1/27/2012 | 1/27/2012 | 7 | 0 | 7 |
| OV | UG/M3 | SG20-011912 | C1201051-004A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG20-011912 | C1201051-004A | NM | 1/19/2012 | 1/27/2012 | 1/27/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG19-011012 | C1201051-010A | NM | 1/20/2012 | 1/28/2012 | 1/28/2012 | 8 | 0 | 8 |
| OV | UG/M3 | SG19-011012 | C1201051-010A | NM | 1/20/2012 | 1/27/2012 | 1/27/2012 | 7 | 0 | 7 |
| OV | UG/M3 | SG18-011912 | C1201051-009A | NM | 1/19/2012 | 1/28/2012 | 1/28/2012 | 9 | 0 | 9 |
| OV | UG/M3 | SG23-011912 | C1201051-006A | NM | 1/19/2012 | 1/27/2012 | 1/28/2012 | 8 | 1 | 9 |

# HOLDTIME

**SDG** C1201063

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | UG/M3 | IA3-012512 | C1201063-003A | NM | 1/25/2012 | 1/28/2012 | 1/28/2012 | 3 | 0 | 3 |
| OV | UG/M3 | IA2-012512 | C1201063-002A | NM | 1/25/2012 | 1/28/2012 | 1/28/2012 | 3 | 0 | 3 |
| OV | UG/M3 | IA1-012512 | C1201063-001A | NM | 1/25/2012 | 1/29/2012 | 1/29/2012 | 4 | 0 | 4 |
| OV | UG/M3 | IA1-012512 | C1201063-001A | NM | 1/25/2012 | 1/28/2012 | 1/28/2012 | 3 | 0 | 3 |

Centek Laboratories, LLC
Instrument: HP5975 MSD
GC Column: J&W DB-5MS, 1.0u, 60M

# Injection Logbook A-MSD

Internal Standard Stock #: 5880
Standard Stock #(s) 5881
LCS Stock #(s) 5882
Method Reference: Toxic Organic Compounds in Ambient Air Jan-99

| Detection Limit | Login Number | Data File Name | Dil. Factor | Inj Vol cc | MethodQ File | Group Number | Inj. Date | Inj. Time | Comments | CD BackUp# |
|---|---|---|---|---|---|---|---|---|---|---|
| | BFBIUG | AJ012609 | - | | A126.IUL | | 1/26/12 | 2053 | | |
| | AIUG-2.0 | 11 | - | | | | | | | |
| | 1.5 | 12 | - | | | | | | | |
| | 1.25 | 13 | - | | | | 1/27/12 | 0013 | | |
| | 1.0 | 14 | - | 200 | | | | | | |
| | 0.75 | 15 | - | | | | | | | |
| | 0.50 | 16 | - | | | | | | | |
| | 0.30 | 17 | - | | | | | | | |
| | 0.10 | 18 | - | | | | | | | |
| | 0.04 | 20 | - | | | | | 0736 | | |
| | 0.15 | 21 | - | | | | | | | |
| | BLK | 22 | - | | | | | | | |

Page No: 16

Analyzed by:
Form C147

Centek Laboratories, LLC

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A126_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Jan 27 09:12:05 2012
Response via : Initial Calibration

Calibration Files
0.04 =AJ012620.D 0.10 =AJ012619.D 0.15 =AJ012621.D
0.30 =AJ012617.D 0.50 =AJ012616.D 0.75 =AJ012615.D

| | | Compound | 0.04 | 0.10 | 0.15 | 0.30 | 0.50 | 0.75 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Bromochloromethane | ----------ISTD---------- | | | | | | | |
| 2) | T | Propylene | | | 1.550 | 1.004 | 0.776 | 0.762 | 0.840 | 37.08 |
| 3) | T | Freon 12 | | | 5.006 | 3.734 | 3.594 | 3.807 | 3.901 | 11.68 |
| 4) | T | Chloromethane | | | 0.821 | 0.878 | 0.809 | 0.818 | 0.811 | 4.86 |
| 5) | T | Freon 114 | | | 4.201 | 3.107 | 2.493 | 2.938 | 3.053 | 16.55 |
| 6) | T | Vinyl Chloride | | 0.749 | 1.018 | 0.737 | 0.622 | 0.684 | 0.710 | 17.53 |
| 7) | T | 1,3-butadiene | | | 0.648 | 0.480 | 0.533 | 0.431 | 0.510 | 13.40 |
| 8) | T | Bromomethane | | | 1.079 | 1.111 | 0.919 | 0.900 | 0.971 | 8.34 |
| 9) | T | Ethanol | | | | 0.355 | 0.303 | 0.190 | 0.251 | 26.58 |
| 10) | T | Acrolein | | | | 0.263 | 0.245 | 0.268 | 0.258 | 10.80 |
| 11) | T | Chloroethane | | | 0.343 | 0.339 | 0.347 | 0.317 | 0.297 | 14.87 |
| 12) | T | Vinyl Bromide | | | 1.361 | 1.128 | 1.065 | 1.084 | 1.109 | 10.06 |
| 13) | T | Freon 11 | | | 3.725 | 3.376 | 3.233 | 3.394 | 3.450 | 4.22 |
| 14) | T | Acetone | | | 0.904 | 0.668 | 0.524 | 0.560 | 0.567 | 27.36 |
| 15) | T | Isopropyl alcoh | | | 0.727 | 0.896 | 0.802 | 0.959 | 0.827 | 8.68 |
| 16) | T | 1,1-dichloroeth | | | 1.136 | 0.955 | 0.815 | 0.995 | 0.930 | 11.33 |
| 17) | T | Freon 113 | | | 2.217 | 2.063 | 1.986 | 2.051 | 2.114 | 4.37 |
| 18) | T | Methylene chlor | | | 1.601 | 1.213 | 1.124 | 0.926 | 1.084 | 21.98 |
| 19) | T | Allyl chloride | | | 0.873 | 0.637 | 0.453 | 0.594 | 0.685 | 18.50 |
| 20) | T | Carbon disulfid | | | 3.270 | 2.347 | 2.181 | 2.238 | 2.354 | 16.50 |
| 21) | T | trans-1,2-dichl | | | 1.243 | 1.211 | 0.984 | 1.186 | 1.130 | 7.30 |
| 22) | T | methyl tert-but | | | 1.962 | 2.092 | 1.963 | 2.146 | 2.089 | 3.89 |
| 23) | T | 1,1-dichloroeth | | | 1.708 | 1.387 | 1.396 | 1.380 | 1.403 | 9.13 |
| 24) | T | Vinyl acetate | | | 1.688 | 1.272 | 1.145 | 1.424 | 1.379 | 11.21 |
| 25) | T | Methyl Ethyl Ke | | | 0.204 | 0.255 | 0.215 | 0.259 | 0.230 | 9.62 |
| 26) | T | cis-1,2-dichlor | | | 1.296 | 1.054 | 1.012 | 1.076 | 1.064 | 9.35 |
| 27) | T | Hexane | | | 1.164 | 0.992 | 0.870 | 0.908 | 0.952 | 10.01 |
| 28) | T | Ethyl acetate | | | 1.276 | 0.999 | 0.964 | 1.085 | 1.097 | 8.99 |
| 29) | T | Chloroform | | | 2.589 | 2.143 | 2.046 | 2.166 | 2.190 | 7.87 |
| 30) | T | Tetrahydrofuran | | | | 0.502 | 0.514 | 0.526 | 0.523 | 5.03 |
| 31) | T | 1,2-dichloroeth | | | 1.450 | 1.263 | 1.313 | 1.303 | 1.342 | 4.13 |
| 32) | I | 1,4-difluorobenzene | ----------ISTD---------- | | | | | | | |
| 33) | T | 1,1,1-trichloro | | | 0.732 | 0.581 | 0.623 | 0.601 | 0.618 | 7.91 |
| 34) | T | Cyclohexane | | | 0.300 | 0.249 | 0.233 | 0.233 | 0.234 | 12.81 |
| 35) | T | Carbon tetrachl | 0.969 | 0.784 | 0.831 | 0.744 | 0.713 | 0.725 | 0.772 | 10.12 |
| 36) | T | Benzene | | | 0.620 | 0.509 | 0.513 | 0.489 | 0.512 | 8.97 |
| 37) | T | Methyl methacry | | | | 0.153 | 0.168 | 0.166 | 0.169 | 6.89 |
| 38) | T | 1,4-dioxane | | | | 0.065 | 0.064 | 0.061 | 0.068 | 13.71 |
| 39) | T | 2,2,4-trimethyl | | | 0.785 | 0.667 | 0.626 | 0.642 | 0.655 | 8.38 |
| 40) | T | Heptane | | | 0.334 | 0.248 | 0.253 | 0.241 | 0.247 | 14.97 |
| 41) | T | Trichloroethene | 0.390 | 0.378 | 0.426 | 0.344 | 0.347 | 0.348 | 0.358 | 8.61 |
| 42) | T | 1,2-dichloropro | | | 0.182 | 0.161 | 0.167 | 0.169 | 0.166 | 5.06 |
| 43) | T | Bromodichlorome | | | 0.545 | 0.483 | 0.487 | 0.512 | 0.498 | 4.48 |
| 44) | T | cis-1,3-dichlor | | | 0.320 | 0.271 | 0.274 | 0.281 | 0.291 | 5.90 |
| 45) | T | trans-1,3-dichl | | | 0.233 | 0.205 | 0.235 | 0.257 | 0.253 | 11.44 |
| 46) | T | 1,1,2-trichloro | | | 0.292 | 0.226 | 0.249 | 0.247 | 0.252 | 7.43 |
| 47) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 48) | T | Toluene | | | 0.659 | 0.486 | 0.543 | 0.543 | 0.556 | 8.58 |
| 49) | T | Methyl Isobutyl | | | | 0.250 | 0.199 | 0.240 | 0.263 | 18.44 |
| 50) | T | Dibromochlorome | | | 0.796 | 0.687 | 0.771 | 0.795 | 0.787 | 5.51 |
| 51) | T | Methyl Butyl Ke | | | | 0.175 | 0.149 | 0.143 | 0.176 | 17.18 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A126_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Jan 27 09:12:05 2012
Response via : Initial Calibration

Calibration Files
0.04 =AJ012620.D 0.10 =AJ012619.D 0.15 =AJ012621.D
0.30 =AJ012617.D 0.50 =AJ012616.D 0.75 =AJ012615.D

| | | Compound | 0.04 | 0.10 | 0.15 | 0.30 | 0.50 | 0.75 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 52) | T | 1,2-dibromoetha | | | 0.623 | 0.545 | 0.588 | 0.637 | 0.620 | 6.09 |
| 53) | T | Tetrachloroethy | | | 0.749 | 0.573 | 0.639 | 0.600 | 0.626 | 8.46 |
| 54) | T | Chlorobenzene | | | 0.892 | 0.726 | 0.821 | 0.832 | 0.835 | 6.22 |
| 55) | T | Ethylbenzene | | | 1.185 | 0.978 | 1.147 | 1.196 | 1.175 | 7.39 |
| 56) | T | m&p-xylene | | | 0.863 | 0.814 | 0.920 | 0.957 | 0.939 | 7.67 |
| 57) | T | Styrene | | | 0.594 | 0.526 | 0.660 | 0.706 | 0.679 | 12.19 |
| 58) | T | Bromoform | | | 0.505 | 0.474 | 0.538 | 0.573 | 0.573 | 10.75 |
| 59) | T | o-xylene | | | 0.859 | 0.750 | 1.028 | 1.079 | 0.999 | 13.40 |
| 60) | S | Bromofluorobenz | 0.701 | 0.696 | 0.688 | 0.713 | 0.737 | 0.737 | 0.720 | 2.98 |
| 61) | T | 1,1,2,2-tetrach | | | 0.483 | 0.468 | 0.563 | 0.583 | 0.568 | 10.94 |
| 62) | T | 2-Chlorotoluene | | | 1.027 | 0.842 | 1.020 | 1.113 | 1.072 | 10.54 |
| 63) | T | 4-ethyltoluene | | | 0.947 | 0.920 | 1.115 | 1.180 | 1.146 | 12.66 |
| 64) | T | 1,3,5-trimethyl | | | 0.792 | 0.860 | 1.028 | 1.102 | 1.046 | 14.07 |
| 65) | T | 1,2,4-trimethyl | | | 0.885 | 0.842 | 0.971 | 1.055 | 1.013 | 10.50 |
| 66) | T | 1,3-dichloroben | | | 0.686 | 0.637 | 0.766 | 0.846 | 0.804 | 12.59 |
| 67) | T | benzyl chloride | | | 0.417 | 0.379 | 0.517 | 0.628 | 0.611 | 26.04 |
| 68) | T | 1,4-dichloroben | | | 0.670 | 0.651 | 0.790 | 0.789 | 0.788 | 11.61 |
| 69) | T | 1,2-dichloroben | | | 0.616 | 0.616 | 0.729 | 0.778 | 0.761 | 13.28 |
| 70) | T | 1,2,4-trichloro | | | 0.358 | 0.376 | 0.441 | 0.512 | 0.486 | 18.30 |
| 71) | T | Naphthalene | | | 0.429 | 0.491 | 0.584 | 0.675 | 0.667 | 24.37 |
| 72) | T | Hexachloro-1,3- | | | 0.445 | 0.490 | 0.553 | 0.658 | 0.605 | 16.98 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Centek Laboratories, LLC
Instrument: HP5975 MSD
GC Column: J&W DB-5MS, 1.0u, 60M

# Injection Logbook A-MSD

Internal Standard Stock #: 8880
Standard Stock #(s) 8881
LCS Stock #(s) 8882
Method Reference: Toxic Organic Compounds in Ambient Air Jan-99

| Detection Limit | Login Number | Data File Name | Dil. Factor | Inj Vol cc | MethodQ File | Group Number | Inj. Date | Inj. Time | Comments | CD BackUp# |
|---|---|---|---|---|---|---|---|---|---|---|
| | BFBIUG | AJ012701 | - | - | A126-MA6 MARI | | 1/27/12 | 1025 | | |
| | AIUG-1.0 | 02 | - | 200 | | | | | | |
| | ALCSIUG-012712 | 03 | - | | | | | | | |
| | AMBIUG ↓ | 04 | - | | | | | | | |
| | C1201051-023✓ | 05 | - | | | | | | | |
| | 014✓ | 06 | - | | | | | | | |
| | MS | 07 | - | | | | | | | |
| | MSD | 08 | - | | | | | | | |
| | DL | 09 | 5 | 40 | | | | | | |
| | ↓ | 10 | 40 | 5 | | | | | | |
| | 001✓ | 11 | - | 200 | | | | | | |
| | 002✓ | 12 | - | | | | | | | |
| | 003✓ | 13 | - | | | | | | | |
| | 004✓ | 14 | - | | | | | | | |
| | 005✓ | 15 | - | | | | | | | |
| | 006✓ | 16 | - | | | | | | | |
| | 007✓ | 17 | - | | | | | | | |
| | 008✓ | 18 | - | | | | | | | |
| | 009✓ | 19 | - | | | | | | | |
| | 010✓ | 20 | - | | | | | | | |
| | 011✓ | 21 | - | | | | | | | |
| | 012✓ | 22 | - | | | | | | | |
| | 013✓ | 23 | - | | | | | | | |
| | 015✓ | 24 | - | | | | 1/28/12 | 0026 | | |
| | ALCSIUG-012512 | 25 | - | | | | | | | |
| | C1201051-016✓ | 26 | - | | | | | | | |
| | 017✓ | 27 | - | | | | | | | |
| | 018✓ | 28 | - | ↓ | ↓ | | ↓ | 0241 | | |

Analyzed by: _____
Form C147

Page No: 17

Centek Laboratories, LLC

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AJ012702.D  Vial: 5
Acq On : 27 Jan 2012 12:09 pm  Operator: RJP
Sample : A1UG_1.0  Inst : MSD #1
Misc : Method-A126_1UG  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A126MART.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Jan 27 09:12:05 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 131 | 0.00 |
| 2 | T | Freon 12 | 3.901 | 3.267 | 16.3 | 112 | 0.00 |
| 3 | T | Chloromethane | 0.811 | 0.576 | 29.0 | 95 | 0.00 |
| 4 | T | Vinyl Chloride | 0.710 | 0.517 | 27.2 | 104 | 0.01 |
| 5 | T | 1,1-dichloroethene | 0.930 | 0.723 | 22.3 | 98 | 0.01 |
| 6 | T | Methylene chloride | 1.084 | 1.388 | -28.0 | 174# | 0.00 |
| 7 | T | Carbon disulfide | 2.354 | 1.670 | 29.1 | 95 | 0.00 |
| 8 | T | trans-1,2-dichloroethene | 1.130 | 1.090 | 3.5 | 127 | 0.00 |
| 9 | T | methyl tert-butyl ether | 2.089 | 1.970 | 5.7 | 122 | 0.02 |
| 10 | T | 1,1-dichloroethane | 1.403 | 1.328 | 5.3 | 130 | 0.01 |
| 11 | T | Methyl Ethyl Ketone | 0.230 | 0.229 | 0.4 | 139 | 0.00 |
| 12 | T | cis-1,2-dichloroethene | 1.064 | 1.047 | 1.6 | 130 | 0.00 |
| 13 | T | Chloroform | 2.190 | 2.037 | 7.0 | 119 | 0.00 |
| 14 | T | 1,2-dichloroethane | 1.342 | 1.286 | 4.2 | 123 | 0.00 |
| 15 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 123 | 0.01 |
| 16 | T | 1,1,1-trichloroethane | 0.618 | 0.539 | 12.8 | 109 | 0.01 |
| 17 | T | Carbon tetrachloride | 0.772 | 0.597 | 22.7 | 101 | 0.01 |
| 18 | T | Benzene | 0.512 | 0.517 | -1.0 | 130 | 0.00 |
| 19 | T | Trichloroethene | 0.358 | 0.325 | 9.2 | 121 | 0.00 |
| 20 | T | 1,1,2-trichloroethane | 0.252 | 0.251 | 0.4 | 125 | 0.01 |
| 21 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 121 | 0.00 |
| 22 | T | Toluene | 0.556 | 0.567 | -2.0 | 126 | 0.00 |
| 23 | T | Tetrachloroethylene | 0.626 | 0.557 | 11.0 | 111 | 0.00 |
| 24 | T | Chlorobenzene | 0.835 | 0.828 | 0.8 | 122 | 0.00 |
| 25 | T | Ethylbenzene | 1.175 | 1.217 | -3.6 | 123 | 0.00 |
| 26 | T | m&p-xylene | 0.939 | 0.970 | -3.3 | 123 | 0.00 |
| 27 | T | o-xylene | 0.999 | 0.981 | 1.8 | 108 | 0.00 |
| 28 | S | Bromofluorobenzene | 0.720 | 0.719 | 0.1 | 122 | 0.00 |
| 29 | T | 1,2,4-trimethylbenzene | 1.013 | 0.991 | 2.2 | 114 | 0.00 |
| 30 | T | 1,3-dichlorobenzene | 0.804 | 0.814 | -1.2 | 120 | 0.00 |
| 31 | T | 1,4-dichlorobenzene | 0.788 | 0.741 | 6.0 | 112 | 0.00 |
| 32 | T | 1,2-dichlorobenzene | 0.761 | 0.750 | 1.4 | 113 | 0.00 |
| 33 | T | 1,2,4-trichlorobenzene | 0.486 | 0.446 | 8.2 | 105 | 0.00 |
| 34 | T | Naphthalene | 0.667 | 0.543 | 18.6 | 99 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
AJ012702.D  A126MART.M  Thu Feb 02 12:09:08 2012  MSD1  Page 1

une File : C:\HPCHEM\1\DATA\AJ012702.D
une Time : 27 Jan 2012 12:09 pm

aily Calibration File : C:\HPCHEM\1\DATA\AJ012702.D

| | | | (BFB) | (IS1) | (IS2) | (IS3) |
|---|---|---|---|---|---|---|
| | | | | 31022 | 129393 | 88095 |
| ile | Sample | DL | Surrogate Recovery % | Internal Standard Responses | | |
| J012703.D | ALCS1UG-012712 | 97 | | 28885 | 124111 | 87354 |
| J012704.D | AMB1UG-012712 | 96 | | 27961 | 116625 | 77580 |
| J012705.D | C1201051-023A | 96 | | 28144 | 119100 | 81313 |
| J012706.D | C1201051-014A | 100 | | 30884 | 130360 | 92002 |
| J012707.D | C1201051-014A MS | 99 | | 31919 | 138986 | 95733 |
| J012708.D | C1201051-014A MSD | 93 | | 31433 | 135488 | 91290 |
| J012709.D | C1201051-014A 5X | 100 | | 28962 | 126980 | 86194 |
| J012710.D | C1201051-014A 40X | 101 | | 33743 | 136062 | 92393 |
| J012711.D | C1201051-001A | 94 | | 33208 | 144835 | 95330 |
| J012712.D | C1201051-002A | 93 | | 33253 | 139210 | 98001 |
| J012713.D | C1201051-003A | 99 | | 32862 | 142780 | 97783 |
| J012714.D | C1201051-004A | 99 | | 34464 | 150768 | 102736 |
| J012715.D | C1201051-005A | 102 | | 37767 | 165097 | 117123 |
| J012716.D | C1201051-006A | 96 | | 35910 | 158022 | 111922 |
| J012717.D | C1201051-007A | 92 | | 36929 | 158617 | 109096 |
| J012718.D | C1201051-008A | 93 | | 39416 | 162285 | 113273 |
| J012719.D | C1201051-009A | 94 | | 38330 | 163976 | 114204 |
| J012720.D | C1201051-010A | 93 | | 38251 | 158729 | 109370 |
| J012721.D | C1201051-011A | 94 | | 39326 | 165406 | 113964 |
| J012722.D | C1201051-012A | 97 | | 38705 | 165257 | 114168 |
| J012723.D | C1201051-013A | 96 | | 39432 | 165126 | 114520 |
| J012724.D | C1201051-015A | 92 | | 39819 | 169198 | 119283 |
| J012725.D | ALCS1UGD-012512 | 96 | | 42804 | 179509 | 117738 |
| J012726.D | C1201051-016A | 97 | | 39682 | 166138 | 119424 |
| J012727.D | C1201051-017A | 87 | | 38076 | 166269 | 112370 |
| J012728.D | C1201051-018A | 96 | | 39737 | 174158 | 116694 |
| J012729.D | C1201051-019A | 93 | | 39318 | 173924 | 117946 |
| J012730.D | C1201051-020A | 95 | | 40058 | 174372 | 123265 |
| J012731.D | C1201051-021A | 103 | | 40407 | 178900 | 122302 |
| J012732.D | C1201051-022A | 96 | | 39878 | 173330 | 118357 |
| J012736.D | C1201051-001A 10X | 99 | | 39489 | 171808 | 112073 |
| J012737.D | C1201051-002A 10X | 97 | | 38334 | 167649 | 106655 |

| | | | | | |
|---|---|---|---|---|---|
| J012738.D | C1201051-003A | 10X | 94 | 36321 | 162649 | 107204 |
| J012739.D | C1201051-004A | 10X | 93 | 37610 | 162938 | 106780 |
| J012740.D | C1201051-005A | 10X | 100 | 37529 | 158963 | 105029 |
| J012741.D | C1201051-006A | 10X | 92 | 37748 | 164931 | 111986 |

t - fails 24hr time check * - fails criteria

Created: Thu Feb 02 12:10:33 2012 MSD #1/

une File : C:\HPCHEM\1\DATA\AJ012702.D
une Time : 27 Jan 2012 12:09 pm

aily Calibration File : C:\HPCHEM\1\DATA\AJ012702.D

| | (BFB) | | (IS1) | (IS2) | (IS3) |
|---|---|---|---|---|---|
| | | | 31022 | 129393 | 88095 |
| ile | Sample | DL | Surrogate Recovery % | Internal Standard Responses | |
| J012733.D | C1201063-001A | 97 | 39989 | 172203 | 115423 |
| J012734.D | C1201063-002A | 96 | 39213 | 167021 | 108246 |
| J012735.D | C1201063-003A | 94 | 39660 | 171172 | 115003 |

t - fails 24hr time check * - fails criteria

Created: Fri Feb 03 17:05:36 2012 MSD #1/

Centek Laboratories, LLC
Instrument: HP5975 MSD
GC Column: J&W DB-5MS, 1.0u, 60M

# Injection Logbook A-MSD

Internal Standard Stock #: 8880
Standard Stock #(s) 8881
LCS Stock #(s) 8882
Method Reference: Toxic Organic Compounds in Ambient Air Jan-99

| Detection Limit | Login Number | Data File Name | Dil. Factor | Inj Vol cc | MethodQ File | Group Number | Inj. Date | Inj. Time | Comments | CD BackUp# |
|---|---|---|---|---|---|---|---|---|---|---|
| | C120105I-019 ✓ | AJ012729 | - | 200 | A126-746 MAR | | 1/25/12 | 0314 | | |
| | 020 ✓ | 30 | - | | | | | | | |
| | 021 ✓ | 31 | - | | | | | | | |
| | 022 ✓ | 32 | - | | | | | | | |
| | C120106S-001 | 33 | - | | | | | | | |
| | 002 | 34 | - | | | | | | | |
| | 003 | 35 | - | | | | | | | |
| | C120105I-001 DL | 36 | 10 | 20 | | | | | | |
| | 002 | 37 | | | | | | | | |
| | 003 | 38 | | | | | | | | |
| | 004 | 39 | | | | | | | | |
| | 005 | 40 | | | | | | | | |
| | 006 | 41 | | | | | | 0949 | | |
| | BLK | 42 | - | - | | | | | | |
| | | | | | | | | | | |
| | BFB1UG | AJ012801 | - | - | A126 1UG | | 1/25/12 | 1036 | | |
| | A1UG-1.0 | 04 | | 200 | | | | | | |
| | ALCS1UG-012812 | 05 | - | | | | | | | |
| | AMB1UG ↓ | 06 | - | | | | | | | |
| | WAC012812B | 08 | - | | | | | | | |
| | C | 09 | - | | | | | | | |
| | D | 10 | - | | | | | | | |
| | E | 11 | - | | | | | | | |
| | F | 12 | - | | | | | | | |
| | G | 13 | - | | | | | | | |
| | H | 14 | - | | | | | | | |
| | A | 15 | - | | | | | | | |
| | C120105I-007 DL | 16 | 10 | 20 | A126 MeOH | | | 2022 | | |

Page No: 15

Analyzed by: [signature]
Form C147

**Centek Laboratories, LLC**
Instrument: HP5975 MSD
GC Column: J&W DB-5MS, 1.0u, 60M

## Injection Logbook A-MSD

Internal Standard Stock #: 8880
Standard Stock #(s) 8881
LCS Stock #(s) 8882
Method Reference: Toxic Organic Compounds in Ambient Air Jan-99

| Detection Limit | Login Number | Data File Name | Dil. Factor | Inj Vol cc | MethodQ File | Group Number | Inj. Date | Inj. Time | Comments | CD BackUp# |
|---|---|---|---|---|---|---|---|---|---|---|
| | C1201051-008 DL | AV012817 | 5 | 40 | A126-10L | | 1/28/12 | 2054 | | |
| | ↓ | 18 | 40 | 5 | ↓ | | ↓ | | | |
| | 009 | 19 | 5 | 40 | | | | | | |
| | ↓ | 20 | 40 | 5 | | | | | | |
| | 010 | 21 | 5 | 40 | | | | | | |
| | ↓ | 22 | 40 | 5 | | | ↓ | | | |
| | 011 | 24 | 5 | 40 | | | 1/29/12 | 0045 | | |
| | ↓ | 25 | 40 | 5 | | | ↓ | | | |
| | 012 | 26 | 10 | 20 | | | | | | |
| | 013 | 27 | ↓ | ↓ | | | | | | |
| | 015 | 28 | ↓ | ↓ | | | | | | |
| | ↓ | 29 | 40 | 5 | | | | | | |
| | A10GLCSD-012812 | 30 | - | 200 | | | | | | |
| | C1201051-016 DL | 31 | 10 | 20 | | | | | | |
| | ↓ | 32 | 40 | 5 | | | | | | |
| | 017 | 33 | 10 | 20 | | | | | | |
| | 018 | 34 | ↓ | ↓ | | | | | | |
| | 019 | 35 | ↓ | ↓ | | | | | | |
| | 020 | 36 | 20 | 10 | | | | | | |
| | 021 | 37 | ↓ | ↓ | | | | | | |
| | 022 | 38 | ↓ | ↓ | | | | | | |
| | C1201063-001 | 39 | 10 | 20 | | | | 0855 | | |
| | BLK | 40 | - | - | ↓ | | ↓ | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Analyzed by: _____

Page No: 19

Form C147

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AJ012804.D  Vial: 10
Acq On : 28 Jan 2012 1:43 pm  Operator: RJP
Sample : A1UG_1.0  Inst : MSD #1
Misc : Method-A126_1UG  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A126MART.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Jan 27 09:12:05 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 148 | 0.02 |
| 2 | T | Freon 12 | 3.901 | 3.505 | 10.2 | 136 | 0.00 |
| 3 | T | Chloromethane | 0.811 | 0.616 | 24.0 | 114 | 0.00 |
| 4 | T | Vinyl Chloride | 0.710 | 0.599 | 15.6 | 136 | 0.01 |
| 5 | T | 1,1-dichloroethene | 0.930 | 0.864 | 7.1 | 132 | 0.02 |
| 6 | T | Methylene chloride | 1.084 | 0.844 | 22.1 | 119 | 0.00 |
| 7 | T | Carbon disulfide | 2.354 | 1.980 | 15.9 | 127 | 0.01 |
| 8 | T | trans-1,2-dichloroethene | 1.130 | 0.912 | 19.3 | 120 | 0.01 |
| 9 | T | methyl tert-butyl ether | 2.089 | 1.920 | 8.1 | 134 | 0.02 |
| 10 | T | 1,1-dichloroethane | 1.403 | 1.176 | 16.2 | 130 | 0.02 |
| 11 | T | Methyl Ethyl Ketone | 0.230 | 0.271 | -17.8 | 185# | 0.00 |
| 12 | T | cis-1,2-dichloroethene | 1.064 | 0.852 | 19.9 | 119 | 0.01 |
| 13 | T | Chloroform | 2.190 | 2.609 | -19.1 | 172# | 0.01 |
| 14 | T | 1,2-dichloroethane | 1.342 | 1.632 | -21.6 | 176# | 0.01 |
| 15 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 148 | 0.02 |
| 16 | T | 1,1,1-trichloroethane | 0.618 | 0.622 | -0.6 | 151# | 0.02 |
| 17 | T | Carbon tetrachloride | 0.772 | 0.607 | 21.4 | 123 | 0.02 |
| 18 | T | Benzene | 0.512 | 0.623 | -21.7 | 189# | 0.02 |
| 19 | T | Trichloroethene | 0.358 | 0.367 | -2.5 | 164# | 0.01 |
| 20 | T | 1,1,2-trichloroethane | 0.252 | 0.304 | -20.6 | 182# | 0.02 |
| 21 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 144 | 0.01 |
| 22 | T | Toluene | 0.556 | 0.691 | -24.3 | 183# | 0.01 |
| 23 | T | Tetrachloroethylene | 0.626 | 0.601 | 4.0 | 143 | 0.00 |
| 24 | T | Chlorobenzene | 0.835 | 0.970 | -16.2 | 170# | 0.00 |
| 25 | T | Ethylbenzene | 1.175 | 1.518 | -29.2 | 184# | 0.00 |
| 26 | T | m&p-xylene | 0.939 | 1.194 | -27.2 | 181# | 0.00 |
| 27 | T | o-xylene | 0.999 | 1.244 | -24.5 | 164# | 0.00 |
| 28 | S | Bromofluorobenzene | 0.720 | 0.761 | -5.7 | 154# | 0.00 |
| 29 | T | 1,2,4-trimethylbenzene | 1.013 | 1.285 | -26.9 | 177# | 0.01 |
| 30 | T | 1,3-dichlorobenzene | 0.804 | 0.895 | -11.3 | 158# | 0.00 |
| 31 | T | 1,4-dichlorobenzene | 0.788 | 0.875 | -11.0 | 158# | 0.00 |
| 32 | T | 1,2-dichlorobenzene | 0.761 | 0.868 | -14.1 | 157# | 0.00 |
| 33 | T | 1,2,4-trichlorobenzene | 0.486 | 0.540 | -11.1 | 153# | 0.00 |
| 34 | T | Naphthalene | 0.667 | 0.827 | -24.0 | 181# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

une File : C:\HPCHEM\1\DATA\AJ012804.D
une Time : 28 Jan 2012 1:43 pm

aily Calibration File : C:\HPCHEM\1\DATA\AJ012804.D

| | | | (BFB) | (IS1) | (IS2) | (IS3) |
|---|---|---|---|---|---|---|
| | | | | 34996 | 155321 | 105159 |
| ile | Sample | DL | Surrogate Recovery % | Internal Standard Responses | | |
| J012805.D | ALCS1UG-012812 | | 101 | 33509 | 147027 | 99397 |
| J012806.D | AMB1UG-012812 | | 102 | 33639 | 141890 | 93267 |
| J012816.D | C1201051-007A | 10X | 101 | 30351 | 128476 | 83780 |
| J012817.D | C1201051-008A | 5X | 103 | 29797 | 126211 | 83664 |
| J012818.D | C1201051-008A | 40X | 104 | 29477 | 127209 | 81588 |
| J012819.D | C1201051-009A | 5X | 104 | 29075 | 125100 | 84289 |
| J012820.D | C1201051-009A | 40X | 102 | 28827 | 125858 | 83974 |
| J012821.D | C1201051-010A | 5X | 99 | 30756 | 129119 | 86165 |
| J012822.D | C1201051-010A | 40X | 104 | 30559 | 124336 | 81319 |
| J012824.D | C1201051-011A | 5X | 102 | 28970 | 121517 | 81719 |
| J012825.D | C1201051-011A | 40X | 108 | 28812 | 120580 | 78966 |
| J012826.D | C1201051-012A | 10X | 97 | 28788 | 118654 | 80637 |
| J012827.D | C1201051-013A | 10X | 106 | 28041 | 123248 | 80119 |
| J012828.D | C1201051-015A | 10X | 107 | 29863 | 120609 | 82196 |
| J012829.D | C1201051-015A | 40X | 103 | 27572 | 115547 | 75608 |
| J012830.D | A1UGLCSD-012812 | | 102 | 27588 | 115827 | 76314 |
| J012831.D | C1201051-016A | 10X | 100 | 29159 | 122810 | 78354 |
| J012832.D | C1201051-016A | 40X | 103 | 27482 | 109712 | 75103 |
| J012833.D | C1201051-017A | 10X | 102 | 26849 | 111753 | 75439 |
| J012834.D | C1201051-018A | 10X | 102 | 26487 | 109383 | 73776 |
| J012835.D | C1201051-019A | 10X | 104 | 25578 | 109530 | 73215 |
| J012836.D | C1201051-020A | 20X | 109 | 26054 | 107512 | 70069 |
| J012837.D | C1201051-021A | 20X | 102 | 25819 | 112544 | 71738 |
| J012838.D | C1201051-022A | 20X | 100 | 25674 | 109258 | 71037 |

t - fails 24hr time check * - fails criteria

Created: Thu Feb 02 12:13:23 2012 MSD #1/

Centek Laboratories, LLC

une File : C:\HPCHEM\1\DATA\AJ012804.D
une Time : 28 Jan 2012 1:43 pm

aily Calibration File : C:\HPCHEM\1\DATA\AJ012804.D

| | (BFB) | (IS1) | (IS2) | (IS3) |
|---|---|---|---|---|
| | | 34996 | 155321 | 105159 |

| ile | Sample | DL | Surrogate Recovery % | Internal Standard Responses | | |
|---|---|---|---|---|---|---|
| J012839.D | C1201063-001A | 10X | 100 | 25507 | 109893 | 70131 |

t - fails 24hr time check * - fails criteria

Created: Fri Feb 03 17:06:13 2012 MSD #1/

**CENTEK LABORATORIES, LLC**

**Date:** 02-Feb-12

# QC SUMMARY REPORT
# SURROGATE RECOVERIES

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 1
**Test No:** TO-15 **Matrix:** A

| Sample ID | BR4FBZ | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A1UGLCSD-012812 | 102 | | | | | | | |
| ALCS1UG-012712 | 97.0 | | | | | | | |
| ALCS1UG-012812 | 101 | | | | | | | |
| ALCS1UGD-012512 | 96.0 | | | | | | | |
| AMB1UG-012712 | 96.0 | | | | | | | |
| AMB1UG-012812 | 102 | | | | | | | |
| C1201051-001A | 94.0 | | | | | | | |
| C1201051-002A | 93.0 | | | | | | | |
| C1201051-003A | 99.0 | | | | | | | |
| C1201051-004A | 99.0 | | | | | | | |
| C1201051-005A | 102 | | | | | | | |
| C1201051-006A | 96.0 | | | | | | | |
| C1201051-007A | 92.0 | | | | | | | |
| C1201051-008A | 93.0 | | | | | | | |
| C1201051-009A | 94.0 | | | | | | | |
| C1201051-010A | 93.0 | | | | | | | |
| C1201051-011A | 94.0 | | | | | | | |
| C1201051-012A | 97.0 | | | | | | | |
| C1201051-013A | 96.0 | | | | | | | |
| C1201051-014A | 100 | | | | | | | |
| C1201051-014A MS | 99.0 | | | | | | | |
| C1201051-014A MSD | 93.0 | | | | | | | |
| C1201051-015A | 92.0 | | | | | | | |

| Acronym | Surrogate | QC Limits |
|---|---|---|
| BR4FBZ | = Bromofluorobenzene | 70-130 |

*** Surrogate recovery outside acceptance limits**

*1*

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 1
**Test No:** TO-15 **Matrix:** A

| Sample ID | BR4FBZ | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C1201051-016A | 97.0 | | | | | | | |
| C1201051-017A | 87.0 | | | | | | | |
| C1201051-018A | 96.0 | | | | | | | |
| C1201051-019A | 93.0 | | | | | | | |
| C1201051-020A | 95.0 | | | | | | | |
| C1201051-021A | 103 | | | | | | | |
| C1201051-022A | 96.0 | | | | | | | |
| C1201051-023A | 96.0 | | | | | | | |

| Acronym | | Surrogate | QC Limits |
|---|---|---|---|
| BR4FBZ | = | Bromofluorobenzene | 70-130 |

*** Surrogate recovery outside acceptance limits**

**CENTEK LABORATORIES, LLC**

**Date:** *02-Feb-12*

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634

**TestCode: 1ugM3_TO15w/Naph**

| Sample ID AMB1UG-012712 | SampType: MBLK | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63222 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| Benzene | ND | 0.15 | | | | | | | | | |
| Carbon disulfide | ND | 0.15 | | | | | | | | | |
| Carbon tetrachloride | ND | 0.040 | | | | | | | | | |
| Chlorobenzene | ND | 0.15 | | | | | | | | | |
| Chloroform | ND | 0.15 | | | | | | | | | |
| Chloromethane | ND | 0.15 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Ethylbenzene | ND | 0.15 | | | | | | | | | |
| Freon 12 | ND | 0.15 | | | | | | | | | |
| m&p-Xylene | ND | 0.30 | | | | | | | | | |
| Methyl Ethyl Ketone | ND | 0.30 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 0.15 | | | | | | | | | |
| Methylene chloride | ND | 0.15 | | | | | | | | | |
| Naphthalene | ND | 0.15 | | | | | | | | | |
| o-Xylene | ND | 0.15 | | | | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| . | Results reported are not blank corrected | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected at or below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike Recovery outside accepted recovery limits | | | | |

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID AMB1UG-012712 | SampType: MBLK | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63222 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethylene | ND | 0.15 | | | | | | | | | |
| Toluene | ND | 0.15 | | | | | | | | | |
| trans-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Trichloroethene | ND | 0.040 | | | | | | | | | |
| Vinyl chloride | ND | 0.040 | | | | | | | | | |
| Surr: Bromofluorobenzene | 0.9600 | 0 | 1 | 0 | 96.0 | 70 | 130 | | | | |

| Sample ID AMB1UG-012812 | SampType: MBLK | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5398 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5398 | TestNo: TO-15 | | Analysis Date: 1/28/2012 | SeqNo: 63261 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| Benzene | ND | 0.15 | | | | | | | | | |
| Carbon disulfide | ND | 0.15 | | | | | | | | | |
| Carbon tetrachloride | ND | 0.040 | | | | | | | | | |
| Chlorobenzene | ND | 0.15 | | | | | | | | | |
| Chloroform | ND | 0.15 | | | | | | | | | |
| Chloromethane | ND | 0.15 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Ethylbenzene | ND | 0.15 | | | | | | | | | |
| Freon 12 | ND | 0.15 | | | | | | | | | |

**Qualifiers:**
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID AMB1UG-012812 | SampType: MBLK | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5398 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5398 | TestNo: TO-15 | | Analysis Date: 1/28/2012 | SeqNo: 63261 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| m&p-Xylene | ND | 0.30 | | | | | | | | | |
| Methyl Ethyl Ketone | ND | 0.30 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 0.15 | | | | | | | | | |
| Methylene chloride | ND | 0.15 | | | | | | | | | |
| Naphthalene | ND | 0.15 | | | | | | | | | |
| o-Xylene | ND | 0.15 | | | | | | | | | |
| Tetrachloroethylene | ND | 0.15 | | | | | | | | | |
| Toluene | ND | 0.15 | | | | | | | | | |
| trans-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Trichloroethene | ND | 0.040 | | | | | | | | | |
| Vinyl chloride | ND | 0.040 | | | | | | | | | |
| Surr: Bromofluorobenzene | 1.020 | 0 | 1 | 0 | 102 | 70 | 130 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| . | Results reported are not blank corrected | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected at or below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike Recovery outside accepted recovery limits | | | | |

**CENTEK LABORATORIES, LLC**

**Date:** *02-Feb-12*

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634

**TestCode: 1ugM3_TO15w/Naph**

| Sample ID C1201051-014A MS | SampType: MS | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: SG3-011012 | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63251 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 0.8000 | 0.15 | 1 | 0 | 80.0 | 70 | 130 | | | | |
| 1,1,2-Trichloroethane | 1.030 | 0.15 | 1 | 0 | 103 | 70 | 130 | | | | |
| 1,1-Dichloroethane | 0.9200 | 0.15 | 1 | 0 | 92.0 | 70 | 130 | | | | |
| 1,1-Dichloroethene | 0.8700 | 0.15 | 1 | 0 | 87.0 | 70 | 130 | | | | |
| 1,2,4-Trichlorobenzene | 0.7400 | 0.15 | 1 | 0 | 74.0 | 70 | 130 | | | | |
| 1,2,4-Trimethylbenzene | 4.330 | 0.15 | 1 | 2.9 | 143 | 70 | 130 | | | | S |
| 1,2-Dichlorobenzene | 0.9200 | 0.15 | 1 | 0 | 92.0 | 70 | 130 | | | | |
| 1,2-Dichloroethane | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | | | | |
| 1,3-Dichlorobenzene | 0.9500 | 0.15 | 1 | 0 | 95.0 | 70 | 130 | | | | |
| 1,4-Dichlorobenzene | 0.9100 | 0.15 | 1 | 0 | 91.0 | 70 | 130 | | | | |
| Benzene | 6.400 | 0.15 | 1 | 5.5 | 90.0 | 70 | 130 | | | | |
| Carbon disulfide | 5.070 | 0.15 | 1 | 4.8 | 27.0 | 70 | 130 | | | | S |
| Carbon tetrachloride | 0.7700 | 0.040 | 1 | 0 | 77.0 | 70 | 130 | | | | |
| Chlorobenzene | 0.9600 | 0.15 | 1 | 0 | 96.0 | 70 | 130 | | | | |
| Chloroform | 0.9900 | 0.15 | 1 | 0 | 99.0 | 70 | 130 | | | | |
| Chloromethane | 1.070 | 0.15 | 1 | 0 | 107 | 70 | 130 | | | | |
| cis-1,2-Dichloroethene | 1.020 | 0.15 | 1 | 0 | 102 | 70 | 130 | | | | |
| Ethylbenzene | 2.220 | 0.15 | 1 | 0 | 222 | 70 | 130 | | | | S |
| Freon 12 | 1.040 | 0.15 | 1 | 0 | 104 | 70 | 130 | | | | |
| m&p-Xylene | 5.670 | 0.30 | 2 | 0 | 284 | 70 | 130 | | | | S |
| Methyl Ethyl Ketone | 38.83 | 0.30 | 1 | 31.25 | 758 | 70 | 130 | | | | S |
| Methyl tert-butyl ether | 0.9000 | 0.15 | 1 | 0 | 90.0 | 70 | 130 | | | | |
| Methylene chloride | 1.800 | 0.15 | 1 | 0 | 180 | 70 | 130 | | | | S |
| Naphthalene | 1.430 | 0.15 | 1 | 0 | 143 | 70 | 130 | | | | S |
| o-Xylene | 2.960 | 0.15 | 1 | 0 | 296 | 70 | 130 | | | | S |

**Qualifiers:**

- . Results reported are not blank corrected
- J Analyte detected at or below quantitation limits
- S Spike Recovery outside accepted recovery limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID C1201051-014A MS | SampType: MS | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: SG3-011012 | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63251 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethylene | 0.8400 | 0.15 | 1 | 0 | 84.0 | 70 | 130 | | | | |
| Toluene | 9.130 | 0.15 | 1 | 8.25 | 88.0 | 70 | 130 | | | | |
| trans-1,2-Dichloroethene | 0.9800 | 0.15 | 1 | 0 | 98.0 | 70 | 130 | | | | |
| Trichloroethene | 0.9100 | 0.040 | 1 | 0 | 91.0 | 70 | 130 | | | | |
| Vinyl chloride | 0.7100 | 0.040 | 1 | 0 | 71.0 | 70 | 130 | | | | |
| Surr: Bromofluorobenzene | 0.9900 | 0 | 1 | 0 | 99.0 | 70 | 130 | | | | |

| Sample ID C1201051-014A MS | SampType: MSD | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: SG3-011012 | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63252 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 0.8400 | 0.15 | 1 | 0 | 84.0 | 70 | 130 | 0.8 | 4.88 | 30 | |
| 1,1,2-Trichloroethane | 1.130 | 0.15 | 1 | 0 | 113 | 70 | 130 | 1.03 | 9.26 | 30 | |
| 1,1-Dichloroethane | 0.9700 | 0.15 | 1 | 0 | 97.0 | 70 | 130 | 0.92 | 5.29 | 30 | |
| 1,1-Dichloroethene | 0.9200 | 0.15 | 1 | 0 | 92.0 | 70 | 130 | 0.87 | 5.59 | 30 | |
| 1,2,4-Trichlorobenzene | 0.4100 | 0.15 | 1 | 0 | 41.0 | 70 | 130 | 0.74 | 57.4 | 30 | SR |
| 1,2,4-Trimethylbenzene | 4.530 | 0.15 | 1 | 2.9 | 163 | 70 | 130 | 4.33 | 4.51 | 30 | S |
| 1,2-Dichlorobenzene | 0.9600 | 0.15 | 1 | 0 | 96.0 | 70 | 130 | 0.92 | 4.26 | 30 | |
| 1,2-Dichloroethane | 1.060 | 0.15 | 1 | 0 | 106 | 70 | 130 | 1.01 | 4.83 | 30 | |
| 1,3-Dichlorobenzene | 0.9800 | 0.15 | 1 | 0 | 98.0 | 70 | 130 | 0.95 | 3.11 | 30 | |
| 1,4-Dichlorobenzene | 0.9800 | 0.15 | 1 | 0 | 98.0 | 70 | 130 | 0.91 | 7.41 | 30 | |
| Benzene | 6.540 | 0.15 | 1 | 5.5 | 104 | 70 | 130 | 6.4 | 2.16 | 30 | |
| Carbon disulfide | 5.100 | 0.15 | 1 | 4.8 | 30.0 | 70 | 130 | 5.07 | 0.590 | 30 | S |
| Carbon tetrachloride | 0.8000 | 0.040 | 1 | 0 | 80.0 | 70 | 130 | 0.77 | 3.82 | 30 | |
| Chlorobenzene | 1.040 | 0.15 | 1 | 0 | 104 | 70 | 130 | 0.96 | 8.00 | 30 | |
| Chloroform | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | 0.99 | 2.00 | 30 | |
| Chloromethane | 0.1900 | 0.15 | 1 | 0 | 19.0 | 70 | 130 | 1.07 | 140 | 30 | SR |
| cis-1,2-Dichloroethene | 1.000 | 0.15 | 1 | 0 | 100 | 70 | 130 | 1.02 | 1.98 | 30 | |
| Ethylbenzene | 2.330 | 0.15 | 1 | 0 | 233 | 70 | 130 | 2.22 | 4.84 | 30 | S |
| Freon 12 | 0.9400 | 0.15 | 1 | 0 | 94.0 | 70 | 130 | 1.04 | 10.1 | 30 | |

**Qualifiers:**
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID C1201051-014A MS | SampType: MSD | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: SG3-011012 | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63252 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| m&p-Xylene | 6.090 | 0.30 | 2 | 0 | 304 | 70 | 130 | 5.67 | 7.14 | 30 | S |
| Methyl Ethyl Ketone | 37.70 | 0.30 | 1 | 31.25 | 645 | 70 | 130 | 38.83 | 2.95 | 30 | S |
| Methyl tert-butyl ether | 0.9300 | 0.15 | 1 | 0 | 93.0 | 70 | 130 | 0.9 | 3.28 | 30 | |
| Methylene chloride | 1.920 | 0.15 | 1 | 0 | 192 | 70 | 130 | 1.8 | 6.45 | 30 | S |
| Naphthalene | 0.8400 | 0.15 | 1 | 0 | 84.0 | 70 | 130 | 1.43 | 52.0 | 30 | R |
| o-Xylene | 3.170 | 0.15 | 1 | 0 | 317 | 70 | 130 | 2.96 | 6.85 | 30 | S |
| Tetrachloroethylene | 0.9500 | 0.15 | 1 | 0 | 95.0 | 70 | 130 | 0.84 | 12.3 | 30 | |
| Toluene | 9.720 | 0.15 | 1 | 8.25 | 147 | 70 | 130 | 9.13 | 6.26 | 30 | S |
| trans-1,2-Dichloroethene | 1.000 | 0.15 | 1 | 0 | 100 | 70 | 130 | 0.98 | 2.02 | 30 | |
| Trichloroethene | 0.9400 | 0.040 | 1 | 0 | 94.0 | 70 | 130 | 0.91 | 3.24 | 30 | |
| Vinyl chloride | 0.7700 | 0.040 | 1 | 0 | 77.0 | 70 | 130 | 0.71 | 8.11 | 30 | |
| Surr: Bromofluorobenzene | 0.9300 | 0 | 1 | 0 | 93.0 | 70 | 130 | 0 | 0 | 30 | |

**Qualifiers:**
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

1ug/m3 Detection Limit
January 2012

Method TO-15
Units=ppb

| Compound | Amt | IDL #1 | IDL #2 | IDL #3 | IDL #4 | IDL #5 | IDL #6 | IDL #7 | AVG | StdDev | %Rec | IDL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Propylene | 0.4 | 0.34 | 0.3 | 0.32 | 0.32 | 0.32 | 0.33 | 0.32 | 0.32 | 0.01 | 80.4% | 0.038 |
| Freon 12 | 0.4 | 0.35 | 0.38 | 0.36 | 0.37 | 0.34 | 0.37 | 0.37 | 0.36 | 0.01 | 90.7% | 0.043 |
| Chloromethane | 0.4 | 0.35 | 0.32 | 0.36 | 0.37 | 0.35 | 0.33 | 0.38 | 0.35 | 0.02 | 87.9% | 0.066 |
| Freon 114 | 0.4 | 0.36 | 0.35 | 0.35 | 0.37 | 0.36 | 0.37 | 0.39 | 0.36 | 0.01 | 91.1% | 0.044 |
| Vinyl Chloride | 0.4 | 0.32 | 0.31 | 0.31 | 0.32 | 0.31 | 0.32 | 0.33 | 0.32 | 0.01 | 79.3% | 0.024 |
| 1,3-butadiene | 0.4 | 0.37 | 0.35 | 0.37 | 0.4 | 0.33 | 0.35 | 0.39 | 0.37 | 0.02 | 91.4% | 0.077 |
| Bromomethane | 0.4 | 0.39 | 0.36 | 0.34 | 0.35 | 0.35 | 0.35 | 0.35 | 0.36 | 0.02 | 88.9% | 0.051 |
| Ethanol | 0.4 | 0.33 | 0.31 | 0.41 | 0.35 | 0.32 | 0.35 | 0.33 | 0.34 | 0.03 | 85.7% | 0.104 |
| Acrolein | 0.4 | 0.39 | 0.34 | 0.36 | 0.31 | 0.36 | 0.36 | 0.34 | 0.35 | 0.02 | 87.9% | 0.078 |
| Chloroethane | 0.4 | 0.39 | 0.32 | 0.39 | 0.38 | 0.36 | 0.36 | 0.36 | 0.37 | 0.02 | 91.4% | 0.077 |
| Vinyl Bromide | 0.4 | 0.35 | 0.36 | 0.34 | 0.35 | 0.37 | 0.35 | 0.4 | 0.36 | 0.02 | 90.0% | 0.063 |
| Freon 11 | 0.4 | 0.37 | 0.36 | 0.37 | 0.37 | 0.37 | 0.37 | 0.39 | 0.37 | 0.01 | 92.9% | 0.028 |
| Acetone | 0.4 | 0.39 | 0.31 | 0.36 | 0.36 | 0.35 | 0.31 | 0.35 | 0.35 | 0.03 | 86.8% | 0.090 |
| Isopropyl alcohol | 0.4 | 0.4 | 0.41 | 0.39 | 0.41 | 0.4 | 0.36 | 0.37 | 0.39 | 0.02 | 97.9% | 0.061 |
| 1,1-dichloroethene | 0.4 | 0.36 | 0.36 | 0.36 | 0.35 | 0.37 | 0.34 | 0.37 | 0.36 | 0.01 | 89.6% | 0.034 |
| Freon 113 | 0.4 | 0.35 | 0.34 | 0.34 | 0.36 | 0.32 | 0.42 | 0.37 | 0.36 | 0.03 | 89.3% | 0.101 |
| Methylene chloride | 0.4 | 0.33 | 0.34 | 0.35 | 0.35 | 0.32 | 0.42 | 0.34 | 0.35 | 0.03 | 87.5% | 0.103 |
| Allyl chloride | 0.4 | 0.34 | 0.32 | 0.38 | 0.36 | 0.38 | 0.31 | 0.32 | 0.34 | 0.03 | 86.1% | 0.092 |
| Carbon disulfide | 0.4 | 0.36 | 0.4 | 0.35 | 0.36 | 0.32 | 0.4 | 0.4 | 0.37 | 0.03 | 92.5% | 0.098 |
| trans-1,2-dichloroethene | 0.4 | 0.37 | 0.34 | 0.29 | 0.33 | 0.31 | 0.32 | 0.37 | 0.33 | 0.03 | 83.2% | 0.094 |
| methyl tert-butyl ether | 0.4 | 0.35 | 0.3 | 0.33 | 0.33 | 0.33 | 0.28 | 0.27 | 0.31 | 0.03 | 78.2% | 0.094 |
| 1,1-dichloroethane | 0.4 | 0.35 | 0.34 | 0.38 | 0.36 | 0.35 | 0.35 | 0.34 | 0.35 | 0.01 | 88.2% | 0.043 |
| Vinyl acetate | 0.4 | 0.33 | 0.33 | 0.37 | 0.36 | 0.32 | 0.3 | 0.3 | 0.33 | 0.03 | 82.5% | 0.085 |
| Methyl Ethyl Ketone | 0.4 | 0.36 | 0.33 | 0.34 | 0.37 | 0.32 | 0.33 | 0.3 | 0.34 | 0.02 | 83.9% | 0.075 |
| cis-1,2-dichloroethene | 0.4 | 0.35 | 0.34 | 0.32 | 0.34 | 0.36 | 0.33 | 0.36 | 0.34 | 0.01 | 85.7% | 0.047 |
| Hexane | 0.4 | 0.34 | 0.28 | 0.34 | 0.34 | 0.36 | 0.3 | 0.32 | 0.33 | 0.03 | 81.4% | 0.087 |
| Ethyl acetate | 0.4 | 0.38 | 0.31 | 0.36 | 0.35 | 0.35 | 0.32 | 0.3 | 0.34 | 0.03 | 84.6% | 0.092 |
| Chloroform | 0.4 | 0.37 | 0.35 | 0.39 | 0.38 | 0.35 | 0.35 | 0.35 | 0.36 | 0.02 | 90.7% | 0.054 |
| Tetrahydrofuran | 0.4 | 0.38 | 0.33 | 0.32 | 0.36 | 0.3 | 0.31 | 0.31 | 0.33 | 0.03 | 82.5% | 0.093 |
| 1,2-dichloroethane | 0.4 | 0.38 | 0.33 | 0.37 | 0.38 | 0.35 | 0.34 | 0.38 | 0.36 | 0.02 | 90.4% | 0.066 |
| 1,1,1-trichloroethane | 0.4 | 0.42 | 0.4 | 0.38 | 0.38 | 0.37 | 0.37 | 0.38 | 0.39 | 0.02 | 96.4% | 0.057 |
| Cyclohexane | 0.4 | 0.35 | 0.36 | 0.37 | 0.36 | 0.33 | 0.33 | 0.35 | 0.35 | 0.02 | 87.5% | 0.048 |
| Carbon tetrachloride | 0.4 | 0.39 | 0.37 | 0.37 | 0.36 | 0.34 | 0.36 | 0.36 | 0.36 | 0.02 | 91.1% | 0.048 |
| Benzene | 0.4 | 0.38 | 0.38 | 0.37 | 0.39 | 0.4 | 0.34 | 0.38 | 0.38 | 0.02 | 94.3% | 0.059 |
| Methyl methacrylate | 0.4 | 0.36 | 0.32 | 0.32 | 0.3 | 0.33 | 0.31 | 0.3 | 0.32 | 0.02 | 80.0% | 0.065 |
| 1,4-dioxane | 0.4 | 0.36 | 0.33 | 0.33 | 0.3 | 0.36 | 0.28 | 0.3 | 0.32 | 0.03 | 80.7% | 0.097 |
| 2,2,4-trimethylpentane | 0.4 | 0.35 | 0.34 | 0.35 | 0.35 | 0.32 | 0.32 | 0.33 | 0.34 | 0.01 | 84.3% | 0.043 |
| Heptane | 0.4 | 0.37 | 0.32 | 0.35 | 0.35 | 0.29 | 0.3 | 0.32 | 0.33 | 0.03 | 82.1% | 0.092 |

| Compound | Amt | IDL #1 | IDL #2 | IDL #3 | IDL #4 | IDL #5 | IDL #6 | IDL #7 | AVG | StdDev | %Rec | IDL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | 0.4 | 0.39 | 0.4 | 0.39 | 0.38 | 0.35 | 0.38 | 0.35 | 0.38 | 0.02 | 94.3% | 0.062 |
| 1,2-dichloropropane | 0.4 | 0.42 | 0.43 | 0.39 | 0.39 | 0.35 | 0.36 | 0.37 | 0.39 | 0.03 | 96.8% | 0.094 |
| Bromodichloromethane | 0.4 | 0.4 | 0.4 | 0.39 | 0.4 | 0.37 | 0.35 | 0.37 | 0.38 | 0.02 | 95.7% | 0.062 |
| cis-1,3-dichloropropene | 0.4 | 0.36 | 0.34 | 0.39 | 0.37 | 0.35 | 0.3 | 0.32 | 0.35 | 0.03 | 86.8% | 0.096 |
| trans-1,3-dichloropropene | 0.4 | 0.41 | 0.39 | 0.39 | 0.38 | 0.35 | 0.31 | 0.35 | 0.37 | 0.03 | 92.1% | 0.106 |
| 1,1,2-trichloroethane | 0.4 | 0.43 | 0.4 | 0.4 | 0.4 | 0.36 | 0.37 | 0.35 | 0.39 | 0.03 | 96.8% | 0.088 |
| Toluene | 0.4 | 0.33 | 0.33 | 0.33 | 0.35 | 0.31 | 0.3 | 0.3 | 0.32 | 0.02 | 80.4% | 0.059 |
| Methyl Isobutyl Ketone | 0.4 | 0.33 | 0.32 | 0.26 | 0.26 | 0.28 | 0.26 | 0.26 | 0.28 | 0.03 | 70.4% | 0.097 |
| Dibromochloromethane | 0.4 | 0.41 | 0.39 | 0.38 | 0.38 | 0.36 | 0.35 | 0.37 | 0.38 | 0.02 | 94.3% | 0.062 |
| Methyl Butyl Ketone | 0.4 | 0.34 | 0.27 | 0.27 | 0.27 | 0.28 | 0.32 | 0.29 | 0.29 | 0.03 | 72.9% | 0.088 |
| 1,2-dibromoethane | 0.4 | 0.4 | 0.39 | 0.39 | 0.4 | 0.37 | 0.34 | 0.37 | 0.38 | 0.02 | 95.0% | 0.068 |
| Tetrachloroethylene | 0.4 | 0.42 | 0.4 | 0.39 | 0.4 | 0.4 | 0.38 | 0.4 | 0.40 | 0.01 | 99.6% | 0.038 |
| Chlorobenzene | 0.4 | 0.4 | 0.37 | 0.39 | 0.39 | 0.35 | 0.33 | 0.34 | 0.37 | 0.03 | 91.8% | 0.086 |
| Ethylbenzene | 0.4 | 0.31 | 0.31 | 0.32 | 0.31 | 0.29 | 0.27 | 0.26 | 0.30 | 0.02 | 73.9% | 0.072 |
| m&p-xylene | 0.8 | 0.64 | 0.57 | 0.63 | 0.63 | 0.53 | 0.58 | 0.54 | 0.59 | 0.05 | 73.6% | 0.142 |
| Styrene | 0.4 | 0.32 | 0.29 | 0.31 | 0.29 | 0.3 | 0.26 | 0.29 | 0.29 | 0.02 | 73.6% | 0.060 |
| Bromoform | 0.4 | 0.35 | 0.36 | 0.38 | 0.35 | 0.35 | 0.31 | 0.32 | 0.35 | 0.02 | 86.4% | 0.075 |
| o-xylene | 0.4 | 0.26 | 0.3 | 0.27 | 0.31 | 0.23 | 0.22 | 0.26 | 0.26 | 0.03 | 66.1% | 0.104 |
| Bromofluorobenzene | 1 | 1.05 | 1.04 | 1.06 | 1.04 | 1.07 | 0.95 | 1.01 | 1.03 | 0.04 | 103.1% | 0.128 |
| 1,1,2,2-tetrachloroethane | 0.4 | 0.4 | 0.39 | 0.39 | 0.37 | 0.36 | 0.34 | 0.33 | 0.37 | 0.03 | 92.1% | 0.084 |
| 2-Chlorotoluene | 0.4 | 0.41 | 0.33 | 0.32 | 0.32 | 0.3 | 0.34 | 0.34 | 0.34 | 0.03 | 84.3% | 0.110 |
| 4-ethyltoluene | 0.4 | 0.33 | 0.29 | 0.3 | 0.28 | 0.26 | 0.25 | 0.24 | 0.28 | 0.03 | 69.6% | 0.098 |
| 1,3,5-trimethylbenzene | 0.4 | 0.32 | 0.28 | 0.27 | 0.29 | 0.28 | 0.26 | 0.23 | 0.28 | 0.03 | 68.9% | 0.087 |
| 1,2,4-trimethylbenzene | 0.4 | 0.32 | 0.28 | 0.29 | 0.29 | 0.28 | 0.25 | 0.23 | 0.28 | 0.03 | 69.3% | 0.092 |
| 1,3-dichlorobenzene | 0.4 | 0.41 | 0.37 | 0.37 | 0.36 | 0.36 | 0.3 | 0.35 | 0.36 | 0.03 | 90.0% | 0.103 |
| benzyl chloride | 0.4 | 0.34 | 0.38 | 0.38 | 0.35 | 0.38 | 0.33 | 0.33 | 0.36 | 0.02 | 88.9% | 0.075 |
| 1,4-dichlorobenzene | 0.4 | 0.41 | 0.35 | 0.37 | 0.38 | 0.35 | 0.31 | 0.35 | 0.36 | 0.03 | 90.0% | 0.098 |
| 1,2-dichlorobenzene | 0.4 | 0.39 | 0.36 | 0.38 | 0.37 | 0.35 | 0.31 | 0.32 | 0.35 | 0.03 | 88.6% | 0.094 |
| 1,2,4-trichlorobenzene | 0.4 | 0.47 | 0.42 | 0.43 | 0.4 | 0.42 | 0.35 | 0.41 | 0.41 | 0.04 | 103.6% | 0.113 |
| Naphthalene | 0.4 | 0.45 | 0.33 | 0.34 | 0.32 | 0.34 | 0.32 | 0.33 | 0.35 | 0.05 | 86.8% | 0.145 |
| Hexachloro-1,3-butadiene | 0.4 | 0.61 | 0.57 | 0.54 | 0.52 | 0.53 | 0.48 | 0.5 | 0.54 | 0.04 | 133.9% | 0.137 |

0.25ug/m3 Detection Limit
January 2012

Method TO-15
Units=ppb





| Compound | Amt | IDL #1 | IDL #2 | IDL #3 | IDL #4 | IDL #5 | IDL #6 | IDL #7 | AVG | StdDev | %Rec | IDL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 0.1 | 0.11 | 0.1 | 0.1 | 0.11 | 0.1 | 0.1 | 0.12 | 0.11 | 0.01 | 105.7% | 0.025 |
| Carbon tetrachloride | 0.1 | 0.13 | 0.12 | 0.13 | 0.13 | 0.12 | 0.11 | 0.12 | 0.12 | 0.01 | 122.9% | 0.024 |
| Trichloroethene | 0.1 | 0.11 | 0.13 | 0.11 | 0.12 | 0.12 | 0.09 | 0.1 | 0.11 | 0.01 | 111.4% | 0.042 |
| Tetrachloroethylene | 0.1 | 0.14 | 0.12 | 0.12 | 0.12 | 0.12 | 0.09 | 0.14 | 0.12 | 0.02 | 121.4% | 0.053 |

**CENTEK LABORATORIES, LLC**

**Date:** *03-Feb-12*

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634

**TestCode: 1ugM3_TO15w/Naph**

| Sample ID ALCS1UG-012712 | SampType: LCS | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63223 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 0.9200 | 0.15 | 1 | 0 | 92.0 | 70 | 130 | | | | |
| 1,1,2-Trichloroethane | 1.090 | 0.15 | 1 | 0 | 109 | 70 | 130 | | | | |
| 1,1-Dichloroethane | 1.000 | 0.15 | 1 | 0 | 100 | 70 | 130 | | | | |
| 1,1-Dichloroethene | 0.8300 | 0.15 | 1 | 0 | 83.0 | 70 | 130 | | | | |
| 1,2,4-Trichlorobenzene | 0.9500 | 0.15 | 1 | 0 | 95.0 | 70 | 130 | | | | |
| 1,2,4-Trimethylbenzene | 1.030 | 0.15 | 1 | 0 | 103 | 70 | 130 | | | | |
| 1,2-Dichlorobenzene | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | | | | |
| 1,2-Dichloroethane | 1.070 | 0.15 | 1 | 0 | 107 | 70 | 130 | | | | |
| 1,3-Dichlorobenzene | 1.030 | 0.15 | 1 | 0 | 103 | 70 | 130 | | | | |
| 1,4-Dichlorobenzene | 1.040 | 0.15 | 1 | 0 | 104 | 70 | 130 | | | | |
| Benzene | 1.050 | 0.15 | 1 | 0 | 105 | 70 | 130 | | | | |
| Carbon disulfide | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | | | | |
| Carbon tetrachloride | 0.8100 | 0.040 | 1 | 0 | 81.0 | 70 | 130 | | | | |
| Chlorobenzene | 1.030 | 0.15 | 1 | 0 | 103 | 70 | 130 | | | | |
| Chloroform | 1.030 | 0.15 | 1 | 0 | 103 | 70 | 130 | | | | |
| Chloromethane | 0.7700 | 0.15 | 1 | 0 | 77.0 | 70 | 130 | | | | |
| cis-1,2-Dichloroethene | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | | | | |
| Ethylbenzene | 1.090 | 0.15 | 1 | 0 | 109 | 70 | 130 | | | | |
| Freon 12 | 0.9000 | 0.15 | 1 | 0 | 90.0 | 70 | 130 | | | | |
| m&p-Xylene | 2.170 | 0.30 | 2 | 0 | 108 | 70 | 130 | | | | |
| Methyl Ethyl Ketone | 1.060 | 0.30 | 1 | 0 | 106 | 70 | 130 | | | | |
| Methyl tert-butyl ether | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | | | | |
| Methylene chloride | 1.690 | 0.15 | 1 | 0 | 169 | 70 | 130 | | | | S |
| Naphthalene | 0.7700 | 0.15 | 1 | 0 | 77.0 | 70 | 130 | | | | |
| o-Xylene | 1.140 | 0.15 | 1 | 0 | 114 | 70 | 130 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| . | Results reported are not blank corrected | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected at or below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike Recovery outside accepted recovery limits | | | | |

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634

**TestCode: 1ugM3_TO15w/Naph**

| Sample ID ALCS1UG-012712 | SampType: LCS | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63223 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethylene | 0.9300 | 0.15 | 1 | 0 | 93.0 | 70 | 130 | | | | |
| Toluene | 1.050 | 0.15 | 1 | 0 | 105 | 70 | 130 | | | | |
| trans-1,2-Dichloroethene | 1.020 | 0.15 | 1 | 0 | 102 | 70 | 130 | | | | |
| Trichloroethene | 0.9900 | 0.040 | 1 | 0 | 99.0 | 70 | 130 | | | | |
| Vinyl chloride | 0.7800 | 0.040 | 1 | 0 | 78.0 | 70 | 130 | | | | |
| Surr: Bromofluorobenzene | 0.9700 | 0 | 1 | 0 | 97.0 | 70 | 130 | | | | |

| Sample ID ALCS1UG-012812 | SampType: LCS | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5398 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5398 | TestNo: TO-15 | | Analysis Date: 1/28/2012 | SeqNo: 63505 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1.100 | 0.15 | 1 | 0 | 110 | 70 | 130 | | | | |
| 1,1,2-Trichloroethane | 1.400 | 0.15 | 1 | 0 | 140 | 70 | 130 | | | | S |
| 1,1-Dichloroethane | 0.9100 | 0.15 | 1 | 0 | 91.0 | 70 | 130 | | | | |
| 1,1-Dichloroethene | 1.040 | 0.15 | 1 | 0 | 104 | 70 | 130 | | | | |
| 1,2,4-Trichlorobenzene | 1.210 | 0.15 | 1 | 0 | 121 | 70 | 130 | | | | |
| 1,2,4-Trimethylbenzene | 1.310 | 0.15 | 1 | 0 | 131 | 70 | 130 | | | | S |
| 1,2-Dichlorobenzene | 1.270 | 0.15 | 1 | 0 | 127 | 70 | 130 | | | | |
| 1,2-Dichloroethane | 1.260 | 0.15 | 1 | 0 | 126 | 70 | 130 | | | | |
| 1,3-Dichlorobenzene | 1.290 | 0.15 | 1 | 0 | 129 | 70 | 130 | | | | |
| 1,4-Dichlorobenzene | 1.290 | 0.15 | 1 | 0 | 129 | 70 | 130 | | | | |
| Benzene | 1.280 | 0.15 | 1 | 0 | 128 | 70 | 130 | | | | |
| Carbon disulfide | 0.9500 | 0.15 | 1 | 0 | 95.0 | 70 | 130 | | | | |
| Carbon tetrachloride | 0.8700 | 0.040 | 1 | 0 | 87.0 | 70 | 130 | | | | |
| Chlorobenzene | 1.280 | 0.15 | 1 | 0 | 128 | 70 | 130 | | | | |
| Chloroform | 1.280 | 0.15 | 1 | 0 | 128 | 70 | 130 | | | | |
| Chloromethane | 0.9100 | 0.15 | 1 | 0 | 91.0 | 70 | 130 | | | | |
| cis-1,2-Dichloroethene | 1.290 | 0.15 | 1 | 0 | 129 | 70 | 130 | | | | |
| Ethylbenzene | 1.390 | 0.15 | 1 | 0 | 139 | 70 | 130 | | | | S |
| Freon 12 | 1.040 | 0.15 | 1 | 0 | 104 | 70 | 130 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| . | Results reported are not blank corrected | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected at or below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike Recovery outside accepted recovery limits | | | | |

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID ALCS1UG-012812 | SampType: LCS | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5398 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5398 | TestNo: TO-15 | | Analysis Date: 1/28/2012 | SeqNo: 63505 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| m&p-Xylene | 2.930 | 0.30 | 2 | 0 | 146 | 70 | 130 | | | | S |
| Methyl Ethyl Ketone | 1.200 | 0.30 | 1 | 0 | 120 | 70 | 130 | | | | |
| Methyl tert-butyl ether | 0.9900 | 0.15 | 1 | 0 | 99.0 | 70 | 130 | | | | |
| Methylene chloride | 0.7300 | 0.15 | 1 | 0 | 73.0 | 70 | 130 | | | | |
| Naphthalene | 1.340 | 0.15 | 1 | 0 | 134 | 70 | 130 | | | | S |
| o-Xylene | 1.340 | 0.15 | 1 | 0 | 134 | 70 | 130 | | | | S |
| Tetrachloroethylene | 1.110 | 0.15 | 1 | 0 | 111 | 70 | 130 | | | | |
| Toluene | 1.280 | 0.15 | 1 | 0 | 128 | 70 | 130 | | | | |
| trans-1,2-Dichloroethene | 0.8900 | 0.15 | 1 | 0 | 89.0 | 70 | 130 | | | | |
| Trichloroethene | 1.130 | 0.040 | 1 | 0 | 113 | 70 | 130 | | | | |
| Vinyl chloride | 0.9700 | 0.040 | 1 | 0 | 97.0 | 70 | 130 | | | | |
| Surr: Bromofluorobenzene | 1.010 | 0 | 1 | 0 | 101 | 70 | 130 | | | | |

| Sample ID ALCS1UGD-012512 | SampType: LCSD | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/28/2012 | SeqNo: 63224 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 0.7500 | 0.15 | 1 | 0 | 75.0 | 70 | 130 | 0.92 | 20.4 | 30 | |
| 1,1,2-Trichloroethane | 0.9500 | 0.15 | 1 | 0 | 95.0 | 70 | 130 | 1.09 | 13.7 | 30 | |
| 1,1-Dichloroethane | 0.8300 | 0.15 | 1 | 0 | 83.0 | 70 | 130 | 1 | 18.6 | 30 | |
| 1,1-Dichloroethene | 0.5900 | 0.15 | 1 | 0 | 59.0 | 70 | 130 | 0.83 | 33.8 | 30 | SR |
| 1,2,4-Trichlorobenzene | 0.7100 | 0.15 | 1 | 0 | 71.0 | 70 | 130 | 0.95 | 28.9 | 30 | |
| 1,2,4-Trimethylbenzene | 0.8600 | 0.15 | 1 | 0 | 86.0 | 70 | 130 | 1.03 | 18.0 | 30 | |
| 1,2-Dichlorobenzene | 0.8500 | 0.15 | 1 | 0 | 85.0 | 70 | 130 | 1.01 | 17.2 | 30 | |
| 1,2-Dichloroethane | 0.8300 | 0.15 | 1 | 0 | 83.0 | 70 | 130 | 1.07 | 25.3 | 30 | |
| 1,3-Dichlorobenzene | 0.9000 | 0.15 | 1 | 0 | 90.0 | 70 | 130 | 1.03 | 13.5 | 30 | |
| 1,4-Dichlorobenzene | 0.8700 | 0.15 | 1 | 0 | 87.0 | 70 | 130 | 1.04 | 17.8 | 30 | |
| Benzene | 0.9300 | 0.15 | 1 | 0 | 93.0 | 70 | 130 | 1.05 | 12.1 | 30 | |
| Carbon disulfide | 0.8300 | 0.15 | 1 | 0 | 83.0 | 70 | 130 | 1.01 | 19.6 | 30 | |
| Carbon tetrachloride | 0.6600 | 0.040 | 1 | 0 | 66.0 | 70 | 130 | 0.81 | 20.4 | 30 | S |

**Qualifiers:**
. Results reported are not blank corrected
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected at or below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID ALCS1UGD-012512 | SampType: LCSD | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | | | RunNo: 5397 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/28/2012 | | | SeqNo: 63224 | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Chlorobenzene | 0.9500 | 0.15 | 1 | 0 | 95.0 | 70 | 130 | 1.03 | 8.08 | 30 | |
| Chloroform | 0.8700 | 0.15 | 1 | 0 | 87.0 | 70 | 130 | 1.03 | 16.8 | 30 | |
| Chloromethane | 0.5600 | 0.15 | 1 | 0 | 56.0 | 70 | 130 | 0.77 | 31.6 | 30 | SR |
| cis-1,2-Dichloroethene | 0.8700 | 0.15 | 1 | 0 | 87.0 | 70 | 130 | 1.01 | 14.9 | 30 | |
| Ethylbenzene | 0.9800 | 0.15 | 1 | 0 | 98.0 | 70 | 130 | 1.09 | 10.6 | 30 | |
| Freon 12 | 0.6900 | 0.15 | 1 | 0 | 69.0 | 70 | 130 | 0.9 | 26.4 | 30 | S |
| m&p-Xylene | 1.870 | 0.30 | 2 | 0 | 93.5 | 70 | 130 | 2.17 | 14.9 | 30 | |
| Methyl Ethyl Ketone | 0.8900 | 0.30 | 1 | 0 | 89.0 | 70 | 130 | 1.06 | 17.4 | 30 | |
| Methyl tert-butyl ether | 0.7600 | 0.15 | 1 | 0 | 76.0 | 70 | 130 | 1.01 | 28.2 | 30 | |
| Methylene chloride | 2.220 | 0.15 | 1 | 0 | 222 | 70 | 130 | 1.69 | 27.1 | 30 | S |
| Naphthalene | 0.5100 | 0.15 | 1 | 0 | 51.0 | 70 | 130 | 0.77 | 40.6 | 30 | SR |
| o-Xylene | 1.000 | 0.15 | 1 | 0 | 100 | 70 | 130 | 1.14 | 13.1 | 30 | |
| Tetrachloroethylene | 0.8500 | 0.15 | 1 | 0 | 85.0 | 70 | 130 | 0.93 | 8.99 | 30 | |
| Toluene | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | 1.05 | 3.88 | 30 | |
| trans-1,2-Dichloroethene | 0.8200 | 0.15 | 1 | 0 | 82.0 | 70 | 130 | 1.02 | 21.7 | 30 | |
| Trichloroethene | 0.8700 | 0.040 | 1 | 0 | 87.0 | 70 | 130 | 0.99 | 12.9 | 30 | |
| Vinyl chloride | 0.6000 | 0.040 | 1 | 0 | 60.0 | 70 | 130 | 0.78 | 26.1 | 30 | S |
| Surr: Bromofluorobenzene | 0.9600 | 0 | 1 | 0 | 96.0 | 70 | 130 | 0 | 0 | 30 | |

| Sample ID A1UGLCSD-012812 | SampType: LCSD | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | | | RunNo: 5398 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5398 | TestNo: TO-15 | | Analysis Date: 1/29/2012 | | | SeqNo: 63263 | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| 1,1,1-Trichloroethane | 1.110 | 0.15 | 1 | 0 | 111 | 70 | 130 | 1.1 | 0.905 | 30 | |
| 1,1,2-Trichloroethane | 1.450 | 0.15 | 1 | 0 | 145 | 70 | 130 | 1.4 | 3.51 | 30 | S |
| 1,1-Dichloroethane | 1.030 | 0.15 | 1 | 0 | 103 | 70 | 130 | 0.91 | 12.4 | 30 | |
| 1,1-Dichloroethene | 1.190 | 0.15 | 1 | 0 | 119 | 70 | 130 | 1.04 | 13.5 | 30 | |
| 1,2,4-Trichlorobenzene | 1.060 | 0.15 | 1 | 0 | 106 | 70 | 130 | 1.21 | 13.2 | 30 | |
| 1,2,4-Trimethylbenzene | 1.410 | 0.15 | 1 | 0 | 141 | 70 | 130 | 1.31 | 7.35 | 30 | S |
| 1,2-Dichlorobenzene | 1.170 | 0.15 | 1 | 0 | 117 | 70 | 130 | 1.27 | 8.20 | 30 | |

**Qualifiers:**
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID A1UGLCSD-012812 | SampType: LCSD | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5398 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5398 | TestNo: TO-15 | | Analysis Date: 1/29/2012 | SeqNo: 63263 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 1.490 | 0.15 | 1 | 0 | 149 | 70 | 130 | 1.26 | 16.7 | 30 | S |
| 1,3-Dichlorobenzene | 1.200 | 0.15 | 1 | 0 | 120 | 70 | 130 | 1.29 | 7.23 | 30 | |
| 1,4-Dichlorobenzene | 1.170 | 0.15 | 1 | 0 | 117 | 70 | 130 | 1.29 | 9.76 | 30 | |
| Benzene | 1.460 | 0.15 | 1 | 0 | 146 | 70 | 130 | 1.28 | 13.1 | 30 | S |
| Carbon disulfide | 1.060 | 0.15 | 1 | 0 | 106 | 70 | 130 | 0.95 | 10.9 | 30 | |
| Carbon tetrachloride | 0.8500 | 0.040 | 1 | 0 | 85.0 | 70 | 130 | 0.87 | 2.33 | 30 | |
| Chlorobenzene | 1.360 | 0.15 | 1 | 0 | 136 | 70 | 130 | 1.28 | 6.06 | 30 | S |
| Chloroform | 1.370 | 0.15 | 1 | 0 | 137 | 70 | 130 | 1.28 | 6.79 | 30 | S |
| Chloromethane | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | 0.91 | 10.4 | 30 | |
| cis-1,2-Dichloroethene | 1.550 | 0.15 | 1 | 0 | 155 | 70 | 130 | 1.29 | 18.3 | 30 | S |
| Ethylbenzene | 1.540 | 0.15 | 1 | 0 | 154 | 70 | 130 | 1.39 | 10.2 | 30 | S |
| Freon 12 | 1.010 | 0.15 | 1 | 0 | 101 | 70 | 130 | 1.04 | 2.93 | 30 | |
| m&p-Xylene | 3.090 | 0.30 | 2 | 0 | 154 | 70 | 130 | 2.93 | 5.32 | 30 | S |
| Methyl Ethyl Ketone | 1.790 | 0.30 | 1 | 0 | 179 | 70 | 130 | 1.2 | 39.5 | 30 | SR |
| Methyl tert-butyl ether | 1.100 | 0.15 | 1 | 0 | 110 | 70 | 130 | 0.99 | 10.5 | 30 | |
| Methylene chloride | 0.7800 | 0.15 | 1 | 0 | 78.0 | 70 | 130 | 0.73 | 6.62 | 30 | |
| Naphthalene | 1.280 | 0.15 | 1 | 0 | 128 | 70 | 130 | 1.34 | 4.58 | 30 | |
| o-Xylene | 1.590 | 0.15 | 1 | 0 | 159 | 70 | 130 | 1.34 | 17.1 | 30 | S |
| Tetrachloroethylene | 1.030 | 0.15 | 1 | 0 | 103 | 70 | 130 | 1.11 | 7.48 | 30 | |
| Toluene | 1.450 | 0.15 | 1 | 0 | 145 | 70 | 130 | 1.28 | 12.5 | 30 | S |
| trans-1,2-Dichloroethene | 0.9900 | 0.15 | 1 | 0 | 99.0 | 70 | 130 | 0.89 | 10.6 | 30 | |
| Trichloroethene | 1.130 | 0.040 | 1 | 0 | 113 | 70 | 130 | 1.13 | 0 | 30 | |
| Vinyl chloride | 1.100 | 0.040 | 1 | 0 | 110 | 70 | 130 | 0.97 | 12.6 | 30 | |
| Surr: Bromofluorobenzene | 1.020 | 0 | 1 | 0 | 102 | 70 | 130 | 0 | 0 | 30 | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| . | Results reported are not blank corrected | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected at or below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike Recovery outside accepted recovery limits | | | | |

**TETRA TECH** **CALCULATION WORKSHEET** PAGE 1 OF 1

| CLIENT | | JOB NUMBER | |
|---|---|---|---|
| Upstate State Airport | | SDG C120151 | |
| SUBJECT: Sample Calculations | | | |
| BASED ON | | DRAWING NUMBER | |
| BY: John Cognetti | CHECKED BY | APPROVED BY: 3/1/12 JAI | DATE: February 24, 2012 |

Sample SG24-011912, Methyl Ethyl Ketone

$$\frac{107094}{36929} * \frac{1\ ppb}{0.230} = 12.61\ ppb$$ ✓

$$12.61\ ppb * \frac{72.11\ g/mole}{24.45\ L/mole} = 37.19\ ug/m^3$$ ✓

Sample Calculation

## Centek Laboratories, LLC

**Date:** *02-Feb-12*

| | | | |
|---|---|---|---|
| **CLIENT:** | Tetra Tech | **Client Sample ID:** | SG24-011912 |
| **Lab Order:** | C1201051 | **Tag Number:** | 364,121 |
| **Project:** | Maryland MartinAir Middle River 112IC03634 | **Collection Date:** | 1/19/2012 |
| **Lab ID:** | C1201051-007A SG24-011912 | **Matrix:** | AIR |

| Analyses | Result | **Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **1UG/M3 W/ NAPHTHALENE BY METHOD TO15** | | **TO-15** | | | | Analyst: RJP |
| 1,1,1-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,1,2-Trichloroethane | ND | 0.83 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,1-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,1-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,2,4-Trichlorobenzene | ND | 1.1 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,2,4-Trimethylbenzene | 19 | 7.5 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| 1,2-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,2-Dichloroethane | ND | 0.62 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,3-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| 1,4-Dichlorobenzene | ND | 0.92 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Benzene | 10 | 4.9 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Carbon disulfide | 1.3 | 0.47 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Carbon tetrachloride | ND | 0.26 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Chlorobenzene | ND | 0.70 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Chloroform | ND | 0.74 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Chloromethane | ND | 0.31 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| cis-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Ethylbenzene | 6.9 | 0.66 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Freon 12 | 2.0 | 0.75 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| m&p-Xylene | 23 | 13 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Methyl Ethyl Ketone | 40 | 9.0 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Methyl tert-butyl ether | ND | 0.55 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Methylene chloride | 0.56 | 0.53 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Naphthalene | 3.9 | 0.80 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| o-Xylene | 13 | 6.6 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| Tetrachloroethylene | ND | 1.0 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Toluene | 34 | 5.7 | | ug/m3 | 10 | 1/28/2012 8:22:00 PM |
| trans-1,2-Dichloroethene | ND | 0.60 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Trichloroethene | ND | 0.22 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |
| Vinyl chloride | ND | 0.10 | | ug/m3 | 1 | 1/27/2012 8:28:00 PM |

| | | | | | |
|---|---|---|---|---|---|
| **Qualifiers:** | ** | Reporting Limit | . | Results reported are not blank corrected |
| | B | Analyte detected in the associated Method Blank | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected at or below quantitation limits |
| | JN | Non-routine analyte. Quantitation estimated. | ND | Not Detected at the Reporting Limit |
| | S | Spike Recovery outside accepted recovery limits | | |

Quantitation Report (QT/LSC Reviewed) Sample Calculation

Data File : C:\HPCHEM\1\DATA\AJ012717.D Vial: 28
Acq On : 27 Jan 2012 8:28 pm Operator: RJP
Sample : C1201051-007A Sample 5624-011912 Inst : MSD #1
Misc : Method-A126_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 28 10:48:30 2012 Quant Results File: A126MART.RES

Quant Method : C:\HPCHEM\1\METHODS\A126MART.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Jan 28 10:47:02 2012
Response via : Initial Calibration
DataAcq Meth : A126_1UG

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 7.49 | 128 | 36929 | 1.00 | ppb | | 0.02 |
| 15) 1,4-difluorobenzene | 9.81 | 114 | 158617 | 1.00 | ppb | | 0.01 |
| 21) Chlorobenzene-d5 | 14.75 | 117 | 109096 | 1.00 | ppb | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 28) Bromofluorobenzene | 16.31 | 95 | 72388 | 0.92 | ppb | | 0.00 |
| Spiked Amount 1.000 | Range 70 - 130 | | Recovery = 92.00% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 2) Freon 12 | 2.87 | 85 | 55708 | 0.39 | ppb | | 98 |
| 6) Methylene chloride | 5.00 | 84 | 6420 | 0.16 | ppb | # | 76 |
| 7) Carbon disulfide | 5.09 | 76 | 34370 | 0.40 | ppb | | 96 |
| 11) Methyl Ethyl Ketone | 6.68 | 72 | 107094 | 12.62 | ppb | # | 100 |
| 18) Benzene | 9.04 | 78 | 177508 | 2.19 | ppb | | 98 |
| 22) Toluene | 12.81 | 92 | 453027 | 7.47 | ppb | | 89 |
| 25) Ethylbenzene | 15.06 | 91 | 201193 | 1.57 | ppb | | 94 |
| 26) m&p-xylene | 15.23 | 91 | 480642 | 4.69 | ppb | | 93 |
| 27) o-xylene | 15.69 | 91 | 290180 | 2.66 | ppb | | 94 |
| 29) 1,2,4-trimethylbenzene | 17.34 | 105 | 548741 | 4.96 | ppb | | 94 |
| 34) Naphthalene | 19.79 | 128 | 53710 | 0.74 | ppb | | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

 Sample Calculation

Method : C:\HPCHEM\1\METHODS\A126_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Jan 27 09:12:05 2012
Response via : Initial Calibration

Calibration Files
0.04 =AJ012620.D 0.10 =AJ012619.D 0.15 =AJ012621.D
0.30 =AJ012617.D 0.50 =AJ012616.D 0.75 =AJ012615.D

| | | Compound | 0.04 | 0.10 | 0.15 | 0.30 | 0.50 | 0.75 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Bromochloromethane | ---------- | | ISTD | | | | | |
| 2) | T | Propylene | | | 1.550 | 1.004 | 0.776 | 0.762 | 0.840 | 37.08 |
| 3) | T | Freon 12 | | | 5.006 | 3.734 | 3.594 | 3.807 | 3.901 | 11.68 |
| 4) | T | Chloromethane | | | 0.821 | 0.878 | 0.809 | 0.818 | 0.811 | 4.86 |
| 5) | T | Freon 114 | | | 4.201 | 3.107 | 2.493 | 2.938 | 3.053 | 16.55 |
| 6) | T | Vinyl Chloride | | 0.749 | 1.018 | 0.737 | 0.622 | 0.684 | 0.710 | 17.53 |
| 7) | T | 1,3-butadiene | | | 0.648 | 0.480 | 0.533 | 0.431 | 0.510 | 13.40 |
| 8) | T | Bromomethane | | | 1.079 | 1.111 | 0.919 | 0.900 | 0.971 | 8.34 |
| 9) | T | Ethanol | | | | 0.355 | 0.303 | 0.190 | 0.251 | 26.58 |
| 10) | T | Acrolein | | | | 0.263 | 0.245 | 0.268 | 0.258 | 10.80 |
| 11) | T | Chloroethane | | | 0.343 | 0.339 | 0.347 | 0.317 | 0.297 | 14.87 |
| 12) | T | Vinyl Bromide | | | 1.361 | 1.128 | 1.065 | 1.084 | 1.109 | 10.06 |
| 13) | T | Freon 11 | | | 3.725 | 3.376 | 3.233 | 3.394 | 3.450 | 4.22 |
| 14) | T | Acetone | | | 0.904 | 0.668 | 0.524 | 0.560 | 0.567 | 27.36 |
| 15) | T | Isopropyl alcoh | | | 0.727 | 0.896 | 0.802 | 0.959 | 0.827 | 8.68 |
| 16) | T | 1,1-dichloroeth | | | 1.136 | 0.955 | 0.815 | 0.995 | 0.930 | 11.33 |
| 17) | T | Freon 113 | | | 2.217 | 2.063 | 1.986 | 2.051 | 2.114 | 4.37 |
| 18) | T | Methylene chlor | | | 1.601 | 1.213 | 1.124 | 0.926 | 1.084 | 21.98 |
| 19) | T | Allyl chloride | | | 0.873 | 0.637 | 0.453 | 0.594 | 0.685 | 18.50 |
| 20) | T | Carbon disulfid | | | 3.270 | 2.347 | 2.181 | 2.238 | 2.354 | 16.50 |
| 21) | T | trans-1,2-dichl | | | 1.243 | 1.211 | 0.984 | 1.186 | 1.130 | 7.30 |
| 22) | T | methyl tert-but | | | 1.962 | 2.092 | 1.963 | 2.146 | 2.089 | 3.89 |
| 23) | T | 1,1-dichloroeth | | | 1.708 | 1.387 | 1.396 | 1.380 | 1.403 | 9.13 |
| 24) | T | Vinyl acetate | | | 1.688 | 1.272 | 1.145 | 1.424 | 1.379 | 11.21 |
| 25) | T | Methyl Ethyl Ke | | | 0.204 | 0.255 | 0.215 | 0.259 | 0.230 | 9.62 |
| 26) | T | cis-1,2-dichlor | | | 1.296 | 1.054 | 1.012 | 1.076 | 1.064 | 9.35 |
| 27) | T | Hexane | | | 1.164 | 0.992 | 0.870 | 0.908 | 0.952 | 10.01 |
| 28) | T | Ethyl acetate | | | 1.276 | 0.999 | 0.964 | 1.085 | 1.097 | 8.99 |
| 29) | T | Chloroform | | | 2.589 | 2.143 | 2.046 | 2.166 | 2.190 | 7.87 |
| 30) | T | Tetrahydrofuran | | | | 0.502 | 0.514 | 0.526 | 0.523 | 5.03 |
| 31) | T | 1,2-dichloroeth | | | 1.450 | 1.263 | 1.313 | 1.303 | 1.342 | 4.13 |
| 32) | I | 1,4-difluorobenzene | ---------- | | ISTD | | | | | |
| 33) | T | 1,1,1-trichloro | | | 0.732 | 0.581 | 0.623 | 0.601 | 0.618 | 7.91 |
| 34) | T | Cyclohexane | | | 0.300 | 0.249 | 0.233 | 0.233 | 0.234 | 12.81 |
| 35) | T | Carbon tetrachl | 0.969 | 0.784 | 0.831 | 0.744 | 0.713 | 0.725 | 0.772 | 10.12 |
| 36) | T | Benzene | | | 0.620 | 0.509 | 0.513 | 0.489 | 0.512 | 8.97 |
| 37) | T | Methyl methacry | | | | 0.153 | 0.168 | 0.166 | 0.169 | 6.89 |
| 38) | T | 1,4-dioxane | | | | 0.065 | 0.064 | 0.061 | 0.068 | 13.71 |
| 39) | T | 2,2,4-trimethyl | | | 0.785 | 0.667 | 0.626 | 0.642 | 0.655 | 8.38 |
| 40) | T | Heptane | | | 0.334 | 0.248 | 0.253 | 0.241 | 0.247 | 14.97 |
| 41) | T | Trichloroethene | 0.390 | 0.378 | 0.426 | 0.344 | 0.347 | 0.348 | 0.358 | 8.61 |
| 42) | T | 1,2-dichloropro | | | 0.182 | 0.161 | 0.167 | 0.169 | 0.166 | 5.06 |
| 43) | T | Bromodichlorome | | | 0.545 | 0.483 | 0.487 | 0.512 | 0.498 | 4.48 |
| 44) | T | cis-1,3-dichlor | | | 0.320 | 0.271 | 0.274 | 0.281 | 0.291 | 5.90 |
| 45) | T | trans-1,3-dichl | | | 0.233 | 0.205 | 0.235 | 0.257 | 0.253 | 11.44 |
| 46) | T | 1,1,2-trichloro | | | 0.292 | 0.226 | 0.249 | 0.247 | 0.252 | 7.43 |
| 47) | I | Chlorobenzene-d5 | ---------- | | ISTD | | | | | |
| 48) | T | Toluene | | | 0.659 | 0.486 | 0.543 | 0.543 | 0.556 | 8.58 |
| 49) | T | Methyl Isobutyl | | | | 0.250 | 0.199 | 0.240 | 0.263 | 18.44 |
| 50) | T | Dibromochlorome | | | 0.796 | 0.687 | 0.771 | 0.795 | 0.787 | 5.51 |
| 51) | T | Methyl Butyl Ke | | | | 0.175 | 0.149 | 0.143 | 0.176 | 17.18 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

# GC/MS-Whole Air Calculations

## Relative Response Factor (RRF)

$$RRF = \frac{Ax * Cis}{Ais * Cx}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Cx = concentration of the compound being measured (ppbv)
Cis = concentration of the internal standard (ppbv)

## Percent Relative Standard Deviation (%RSD)

$$\% RSD = \frac{\text{Standard deviation of RRF values} * 100}{\text{mean RRF}}$$

## Percent Difference (%D)

$$\% D = \frac{(RRFc - \text{mean RRFi}) * 100}{\text{mean RRFi}}$$

where: RRFc = relative response factor from the continuing calibration
mean RRFi = mean relative response factor from the initial calibration

## Sample Calculations

$$ppbv = \frac{Ax * Is * Df}{Ais * RRF}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Is = Concentration of the internal standard injected (ppbv)
RRF= relative response factor for the compound being measured
Df = Dilution factor

**CENTEK LABORATORIES, LLC**

**Date:** *02-Feb-12*

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634

**TestCode: 1ugM3_TO15w/Naph**

Sample ID **AMB1UG-012712** SampType: **MBLK** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **5397**
Client ID: **ZZZZZ** Batch ID: **R5397** TestNo: **TO-15** Analysis Date: **1/27/2012** SeqNo: **63222**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| Benzene | ND | 0.15 | | | | | | | | | |
| Carbon disulfide | ND | 0.15 | | | | | | | | | |
| Carbon tetrachloride | ND | 0.040 | | | | | | | | | |
| Chlorobenzene | ND | 0.15 | | | | | | | | | |
| Chloroform | ND | 0.15 | | | | | | | | | |
| Chloromethane | ND | 0.15 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Ethylbenzene | ND | 0.15 | | | | | | | | | |
| Freon 12 | ND | 0.15 | | | | | | | | | |
| m&p-Xylene | ND | 0.30 | | | | | | | | | |
| Methyl Ethyl Ketone | ND | 0.30 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 0.15 | | | | | | | | | |
| Methylene chloride | ND | 0.15 | | | | | | | | | |
| Naphthalene | ND | 0.15 | | | | | | | | | |
| o-Xylene | ND | 0.15 | | | | | | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| . | Results reported are not blank corrected | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected at or below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike Recovery outside accepted recovery limits | | | | |

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID AMB1UG-012712 | SampType: MBLK | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5397 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5397 | TestNo: TO-15 | | Analysis Date: 1/27/2012 | SeqNo: 63222 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethylene | ND | 0.15 | | | | | | | | | |
| Toluene | ND | 0.15 | | | | | | | | | |
| trans-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Trichloroethene | ND | 0.040 | | | | | | | | | |
| Vinyl chloride | ND | 0.040 | | | | | | | | | |
| Surr: Bromofluorobenzene | 0.9600 | 0 | 1 | 0 | 96.0 | 70 | 130 | | | | |

| Sample ID AMB1UG-012812 | SampType: MBLK | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 5398 |
|---|---|---|---|---|---|
| Client ID: ZZZZZ | Batch ID: R5398 | TestNo: TO-15 | | Analysis Date: 1/28/2012 | SeqNo: 63261 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.15 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.15 | | | | | | | | | |
| Benzene | ND | 0.15 | | | | | | | | | |
| Carbon disulfide | ND | 0.15 | | | | | | | | | |
| Carbon tetrachloride | ND | 0.040 | | | | | | | | | |
| Chlorobenzene | ND | 0.15 | | | | | | | | | |
| Chloroform | ND | 0.15 | | | | | | | | | |
| Chloromethane | ND | 0.15 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Ethylbenzene | ND | 0.15 | | | | | | | | | |
| Freon 12 | ND | 0.15 | | | | | | | | | |

**Qualifiers:**
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

**CLIENT:** Tetra Tech
**Work Order:** C1201051
**Project:** Maryland MartinAir Middle River 112IC03634 **TestCode: 1ugM3_TO15w/Naph**

| Sample ID | AMB1UG-012812 | SampType: | MBLK | TestCode: | 1ugM3_TO15 | Units: | ppbV | Prep Date: | | RunNo: | 5398 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZ | Batch ID: | R5398 | TestNo: | TO-15 | | | Analysis Date: | 1/28/2012 | SeqNo: | 63261 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| m&p-Xylene | ND | 0.30 | | | | | | | | | |
| Methyl Ethyl Ketone | ND | 0.30 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 0.15 | | | | | | | | | |
| Methylene chloride | ND | 0.15 | | | | | | | | | |
| Naphthalene | ND | 0.15 | | | | | | | | | |
| o-Xylene | ND | 0.15 | | | | | | | | | |
| Tetrachloroethylene | ND | 0.15 | | | | | | | | | |
| Toluene | ND | 0.15 | | | | | | | | | |
| trans-1,2-Dichloroethene | ND | 0.15 | | | | | | | | | |
| Trichloroethene | ND | 0.040 | | | | | | | | | |
| Vinyl chloride | ND | 0.040 | | | | | | | | | |
| Surr: Bromofluorobenzene | 1.020 | 0 | 1 | 0 | 102 | 70 | 130 | | | | |

**Qualifiers:**

| | | | | | |
|---|---|---|---|---|---|
| . | Results reported are not blank corrected | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected at or below quantitation limits | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits |
| S | Spike Recovery outside accepted recovery limits | | | | |

# APPENDIX D—CHEMICAL DATA TABLES

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
# PAGE 1 OF 8

| SAMPLE ID: | SG1-012012 | SG2-012012 | SG3-012012 | SG4-012012 | SG07-012012 | SG08-012012 | SG09-012012 |
|---|---|---|---|---|---|---|---|
| LABORATORY ID: | C1201051-015A | C1201051-013A | C1201051-014A | C1201051-017A | C1201051-022A | C1201051-018A | C1201051-012A |
| SAMPLE DATE: | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 |
| LOCATION: | SG1 | SG2 | SG3 | SG4 | SG07 | SG08 | SG09 |
| **VOLATILES(UG/M3)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U |
| 1,1,2-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U |
| 1,1-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U |
| 1,1-DICHLOROETHENE | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL |
| 1,2,4-TRICHLOROBENZENE | 1.1 U | 1.1 U | 1.1 UL | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| 1,2,4-TRIMETHYLBENZENE | 31 K | 16 K | 14 | 9.9 | 17 K | 32 K | 8.5 K |
| 1,2-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 1,2-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U |
| 1,3-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 1,4-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 2-BUTANONE | 470 K | 72 K | 38 | 61 K | 22 K | 51 K | 51 K |
| BENZENE | 39 | 27 | 18 | 22 | 24 | 21 | 24 |
| CARBON DISULFIDE | 13 | 14 | 15 | 0.47 U | 4 | 4.9 | 7.3 |
| CARBON TETRACHLORIDE | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U |
| CHLOROBENZENE | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U |
| CHLOROFORM | 350 | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U |
| CHLOROMETHANE | 0.31 UL | 0.31 UL | 0.55 L | 0.31 UL | 0.31 UL | 0.31 UL | 0.31 UL |
| CIS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U | 3.7 | 4.1 | 0.6 | 0.6 U |
| DICHLORODIFLUOROMETHANE | 1.8 | 2.1 | 1.8 | 0.9 | 2 | 2.2 | 2.1 |
| ETHYLBENZENE | 8.8 | 6.8 | 5.2 K | 4.9 | 4.2 | 5.8 | 4.4 |
| M+P-XYLENES | 35 K | 18 K | 16 K | 16 | 14 | 24 K | 14 |
| METHYL TERT-BUTYL ETHER | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U |
| METHYLENE CHLORIDE | 0.46 J | 0.46 J | 0.53 U | 0.53 U | 0.71 K | 0.74 K | 0.64 K |
| NAPHTHALENE | 5.6 L | 5.6 L | 4.5 J | 0.8 UL | 5.6 L | 11 L | 2.8 L |
| O-XYLENE | 19 K | 9.7 K | 8.3 K | 8.4 | 9 | 15 K | 7.7 |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1.8 | 1 U |

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
# PAGE 2 OF 8

| SAMPLE ID: | SG1-012012 | SG2-012012 | SG3-012012 | SG4-012012 | SG07-012012 | SG08-012012 | SG09-012012 |
|---|---|---|---|---|---|---|---|
| LABORATORY ID: | C1201051-015A | C1201051-013A | C1201051-014A | C1201051-017A | C1201051-022A | C1201051-018A | C1201051-012A |
| SAMPLE DATE: | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 |
| LOCATION: | SG1 | SG2 | SG3 | SG4 | SG07 | SG08 | SG09 |
| TOLUENE | 76 | 51 | 32 | 36 | 41 | 32 | 22 |
| TRANS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U |
| TRICHLOROETHENE | 0.22 U | 0.22 U | 0.22 U | 1.3 | 0.22 U | 0.22 U | 0.22 U |
| VINYL CHLORIDE | 0.1 U | 0.1 U | 0.1 U | 2.8 | 77 | 0.1 U | 0.1 U |

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
# PAGE 3 OF 8

| SAMPLE ID: | SG10-011912 | SG11-011912 | SG12-011912 | SG13-012012 | SG14-012012 | SG15-012012 | SG17-012012 |
|---|---|---|---|---|---|---|---|
| LABORATORY ID: | C1201051-002A | C1201051-001A | C1201051-003A | C1201051-011A | C1201051-019A | C1201051-021A | C1201051-020A |
| SAMPLE DATE: | 1/19/2012 | 1/19/2012 | 1/19/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 |
| LOCATION: | SG10 | SG11 | SG12 | SG13 | SG14 | SG15 | SG17 |
| **VOLATILES(UG/M3)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U |
| 1,1,2-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U |
| 1,1-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U |
| 1,1-DICHLOROETHENE | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL |
| 1,2,4-TRICHLOROBENZENE | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| 1,2,4-TRIMETHYLBENZENE | 11 | 11 | 15 | 19 K | 25 K | 30 K | 25 K |
| 1,2-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 1,2-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U |
| 1,3-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 1,4-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 2-BUTANONE | 8.7 J | 5.4 | 18 | 220 K | 55 K | 110 K | 130 K |
| BENZENE | 2.5 | 2.7 | 4.6 | 11 | 10 | 14 | 22 |
| CARBON DISULFIDE | 0.79 | 1.2 | 1.8 | 4.1 | 2.1 | 5.3 | 0.47 U |
| CARBON TETRACHLORIDE | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U |
| CHLOROBENZENE | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U |
| CHLOROFORM | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U |
| CHLOROMETHANE | 0.78 L | 0.73 L | 0.31 UL | 0.31 UL | 0.31 UL | 0.31 UL | 0.31 UL |
| CIS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U |
| DICHLORODIFLUOROMETHANE | 2.6 | 2.1 | 2.1 | 2 | 2.1 | 2 | 1.8 |
| ETHYLBENZENE | 3.4 | 3.7 | 4 | 4.9 | 5.3 | 4.9 | 4.9 |
| M+P-XYLENES | 11 | 12 | 13 | 16 | 18 K | 17 | 17 |
| METHYL TERT-BUTYL ETHER | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U |
| METHYLENE CHLORIDE | 0.46 J | 0.53 U | 0.6 K | 0.53 U | 2.6 K | 0.42 J | 0.71 K |
| NAPHTHALENE | 3.6 L | 2.7 L | 3 L | 4.7 L | 11 L | 7.2 L | 3.9 L |
| O-XYLENE | 5.9 | 7 | 7.5 | 9.4 | 11 K | 14 K | 16 K |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND


| SAMPLE ID: | SG10-011912 | SG11-011912 | SG12-011912 | SG13-012012 | SG14-012012 | SG15-012012 | SG17-012012 |
|---|---|---|---|---|---|---|---|
| LABORATORY ID: | C1201051-002A | C1201051-001A | C1201051-003A | C1201051-011A | C1201051-019A | C1201051-021A | C1201051-020A |
| SAMPLE DATE: | 1/19/2012 | 1/19/2012 | 1/19/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 | 1/20/2012 |
| LOCATION: | SG10 | SG11 | SG12 | SG13 | SG14 | SG15 | SG17 |
| TOLUENE | 26 | 16 | 22 | 33 | 22 | 28 | 34 |
| TRANS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U |
| TRICHLOROETHENE | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.66 | 0.22 U | 0.22 U |
| VINYL CHLORIDE | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
# PAGE 5 OF 8

| SAMPLE ID: | SG18-011912 | SG19-012012 | SG20-011912 | SG21-011912 | SG22-012012 | SG23-011912 | SG24-011912 |
|---|---|---|---|---|---|---|---|
| LABORATORY ID: | C1201051-009A | C1201051-010A | C1201051-004A | C1201051-005A | C1201051-016A | C1201051-006A | C1201051-007A |
| SAMPLE DATE: | 1/19/2012 | 1/20/2012 | 1/19/2012 | 1/19/2012 | 1/20/2012 | 1/19/2012 | 1/19/2012 |
| LOCATION: | SG18 | SG19 | SG20 | SG21 | SG22 | SG23 | SG24 |
| **VOLATILES(UG/M3)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U |
| 1,1,2-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U | 0.83 U |
| 1,1-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U |
| 1,1-DICHLOROETHENE | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL | 0.6 UL |
| 1,2,4-TRICHLOROBENZENE | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| 1,2,4-TRIMETHYLBENZENE | 23 K | 22 K | 18 | 27 | 26 K | 25 | 19 K |
| 1,2-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 1,2-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U | 0.62 U |
| 1,3-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 1,4-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U | 0.92 U |
| 2-BUTANONE | 400 K | 240 K | 11 | 57 | 270 K | 30 | 40 K |
| BENZENE | 10 | 24 | 4.5 | 6.3 | 39 | 4.1 | 10 |
| CARBON DISULFIDE | 13 | 27 | 2 | 3.9 | 33 | 1.8 | 1.3 |
| CARBON TETRACHLORIDE | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U |
| CHLOROBENZENE | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U |
| CHLOROFORM | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U | 0.74 U |
| CHLOROMETHANE | 0.31 UL | 0.31 UL | 0.31 UL | 0.31 UL | 0.67 L | 0.31 UL | 0.31 UL |
| CIS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U |
| DICHLORODIFLUOROMETHANE | 2.1 | 1.8 | 1.7 | 2.1 | 61 | 1.8 | 2 |
| ETHYLBENZENE | 4.6 | 4.2 | 5.1 | 5.1 | 6.9 | 4.8 | 6.9 |
| M+P-XYLENES | 16 | 14 | 16 | 17 | 30 K | 17 | 23 K |
| METHYL TERT-BUTYL ETHER | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U |
| METHYLENE CHLORIDE | 0.67 K | 1.3 K | 0.39 J | 0.39 J | 0.49 J | 0.46 J | 0.56 K |
| NAPHTHALENE | 4.4 L | 3.5 L | 6 L | 7.9 L | 7.7 L | 11 L | 3.9 L |
| O-XYLENE | 11 K | 8.2 | 9.2 | 9.4 | 16 K | 10 | 13 K |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND


| SAMPLE ID: | SG18-011912 | SG19-012012 | SG20-011912 | SG21-011912 | SG22-012012 | SG23-011912 | SG24-011912 |
|---|---|---|---|---|---|---|---|
| LABORATORY ID: | C1201051-009A | C1201051-010A | C1201051-004A | C1201051-005A | C1201051-016A | C1201051-006A | C1201051-007A |
| SAMPLE DATE: | 1/19/2012 | 1/20/2012 | 1/19/2012 | 1/19/2012 | 1/20/2012 | 1/19/2012 | 1/19/2012 |
| LOCATION: | SG18 | SG19 | SG20 | SG21 | SG22 | SG23 | SG24 |
| TOLUENE | 23 | 36 | 29 | 35 | 60 | 22 | 34 |
| TRANS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U |
| TRICHLOROETHENE | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U |
| VINYL CHLORIDE | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND


| | |
|---|---|
| **SAMPLE ID:** | **SG25-011912** |
| **LABORATORY ID:** | **C1201051-008A** |
| **SAMPLE DATE:** | **1/19/2012** |
| **LOCATION:** | **SG25** |
| **VOLATILES(UG/M3)** | |
| 1,1,1-TRICHLOROETHANE | 0.83 U |
| 1,1,2-TRICHLOROETHANE | 0.83 U |
| 1,1-DICHLOROETHANE | 0.62 U |
| 1,1-DICHLOROETHENE | 0.6 UL |
| 1,2,4-TRICHLOROBENZENE | 1.1 U |
| 1,2,4-TRIMETHYLBENZENE | 2.4 |
| 1,2-DICHLOROBENZENE | 0.92 U |
| 1,2-DICHLOROETHANE | 0.7 |
| 1,3-DICHLOROBENZENE | 0.92 U |
| 1,4-DICHLOROBENZENE | 0.92 U |
| 2-BUTANONE | 22 K |
| BENZENE | 1.4 |
| CARBON DISULFIDE | 0.6 |
| CARBON TETRACHLORIDE | 0.26 U |
| CHLOROBENZENE | 0.7 U |
| CHLOROFORM | 0.5 J |
| CHLOROMETHANE | 0.31 UL |
| CIS-1,2-DICHLOROETHENE | 0.6 U |
| DICHLORODIFLUOROMETHANE | 2.3 |
| ETHYLBENZENE | 2.3 |
| M+P-XYLENES | 5 |
| METHYL TERT-BUTYL ETHER | 0.55 U |
| METHYLENE CHLORIDE | 5.7 K |
| NAPHTHALENE | 1 L |
| O-XYLENE | 2 |
| TETRACHLOROETHENE | 1 U |

# TABLE D-1
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL VAPOR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND


| | |
|---|---|
| **SAMPLE ID:** | **SG25-011912** |
| **LABORATORY ID:** | **C1201051-008A** |
| **SAMPLE DATE:** | **1/19/2012** |
| **LOCATION:** | **SG25** |
| TOLUENE | 270 |
| TRANS-1,2-DICHLOROETHENE | 0.6 U |
| TRICHLOROETHENE | 0.22 U |
| VINYL CHLORIDE | 0.1 U |

# TABLE D-2
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# SOIL GAS STATISTICS TABLE
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
# PAGE 1 OF 1

| Chemical | Frequency of Detection | | Mininum Non Detected | Maximum Non Detected | Mininum Detected | Maximum Detected | Sample of Maximum Detected | Mean of All Samples | Mean of Positive Detects | Standard Deviation |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | | | | |
| **VOLATILES(UG/M3)** | | | | | | | | | | |
| 1,2,4-TRIMETHYLBENZENE | 22/22 | 100% | - | - | 2.4 | 32 K | SG08-012012 | 19.4 | 19.4 | 7.95 |
| 1,2-DICHLOROETHANE | 1/22 | 5% | 0.62 | 0.62 | 0.7 | 0.7 | SG25-011912 | 0.328 | 0.700 | 0.083 |
| 2-BUTANONE | 22/22 | 100% | - | - | 5.4 | 470 K | SG1-012012 | 108 | 108 | 130 |
| BENZENE | 22/22 | 100% | - | - | 1.4 | 39 | SG1-012012, SG22-012012 | 15.5 | 15.5 | 11.3 |
| CARBON DISULFIDE | 20/22 | 91% | 0.47 | 0.47 | 0.6 | 33 | SG22-012012 | 7.12 | 7.80 | 8.82 |
| CHLOROFORM | 2/22 | 9% | 0.74 | 0.74 | 0.5 J | 350 | SG1-012012 | 16.3 | 175 | 74.5 |
| CHLOROMETHANE | 4/22 | 18% | 0.31 | 0.31 | 0.55 L | 0.78 L | SG10-011912 | 0.251 | 0.683 | 0.212 |
| CIS-1,2-DICHLOROETHENE | 3/22 | 14% | 0.6 | 0.6 | 0.6 | 4.1 | SG07-012012 | 0.641 | 2.80 | 1.06 |
| DICHLORODIFLUOROMETHANE | 22/22 | 100% | - | - | 0.9 | 61 | SG22-012012 | 4.65 | 4.65 | 12.6 |
| ETHYLBENZENE | 22/22 | 100% | - | - | 2.3 | 8.8 | SG1-012012 | 5.05 | 5.05 | 1.38 |
| M+P-XYLENES | 22/22 | 100% | - | - | 5 | 35 K | SG1-012012 | 17.2 | 17.2 | 6.29 |
| METHYLENE CHLORIDE | 18/22 | 82% | 0.53 | 0.53 | 0.39 J | 5.7 K | SG25-011912 | 0.855 | 0.987 | 1.19 |
| NAPHTHALENE | 21/22 | 95% | 0.8 | 0.8 | 1 L | 11 L | SG08-012012, SG14-012012, SG23-011912 | 5.32 | 5.55 | 2.98 |
| O-XYLENE | 22/22 | 100% | - | - | 2 | 19 K | SG1-012012 | 10.3 | 10.3 | 3.88 |
| TETRACHLOROETHENE | 1/22 | 5% | 1 | 1 | 1.8 | 1.8 | SG08-012012 | 0.559 | 1.80 | 0.277 |
| TOLUENE | 22/22 | 100% | - | - | 16 | 270 | SG25-011912 | 44.5 | 44.5 | 52.2 |
| TRICHLOROETHENE | 2/22 | 9% | 0.22 | 0.22 | 0.66 | 1.3 | SG4-012012 | 0.189 | 0.980 | 0.274 |
| VINYL CHLORIDE | 2/22 | 9% | 0.1 | 0.1 | 2.8 | 77 | SG07-012012 | 3.67 | 39.9 | 16.4 |

Footnotes:
For non-detects, 1/2 sample quantitation limit was used as a proxy concentration.
1/2 the detection limit was used for B qualified data.

Associated Samples

| | | |
|---|---|---|
| SG1-012012 | SG12-011912 | SG22-012012 |
| SG2-012012 | SG13-012012 | SG23-011912 |
| SG3-012012 | SG14-012012 | SG24-011912 |
| SG4-012012 | SG15-012012 | SG25-011912 |
| SG07-012012 | SG17-012012 | |
| SG08-012012 | SG18-011912 | |
| SG09-012012 | SG19-012012 | |
| SG10-011912 | SG20-011912 | |
| SG11-011912 | SG21-011912 | |

# TABLE D-3
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# INDOOR AIR RESULTS
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND


| SAMPLE ID: | IA1-012512 | IA2-012512 | IA3-012512 |
|---|---|---|---|
| LABORATORY ID: | C1201063-001A | C1201063-002A | C1201063-003A |
| SAMPLE DATE: | 1/25/2012 | 1/25/2012 | 1/25/2012 |
| LOCATION: | IA1 | IA2 | IA3 |
| **VOLATILES(UG/M3)** | | | |
| 1,1,1-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U |
| 1,1,2-TRICHLOROETHANE | 0.83 U | 0.83 U | 0.83 U |
| 1,1-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U |
| 1,1-DICHLOROETHENE | 0.6 UL | 0.6 UL | 0.6 UL |
| 1,2,4-TRICHLOROBENZENE | 1.1 U | 1.1 U | 1.1 U |
| 1,2,4-TRIMETHYLBENZENE | 1.6 | 1 | 1.8 |
| 1,2-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U |
| 1,2-DICHLOROETHANE | 0.62 U | 0.62 U | 0.62 U |
| 1,3-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U |
| 1,4-DICHLOROBENZENE | 0.92 U | 0.92 U | 0.92 U |
| 2-BUTANONE | 26 K | 4.3 | 3 |
| BENZENE | 1.3 | 1.3 | 1.3 |
| CARBON DISULFIDE | 0.47 U | 0.47 U | 0.47 U |
| CARBON TETRACHLORIDE | 0.26 U | 0.26 U | 0.26 U |
| CHLOROBENZENE | 0.7 U | 0.7 U | 0.7 U |
| CHLOROFORM | 0.65 J | 0.6 J | 0.74 U |
| CHLOROMETHANE | 0.31 UL | 0.97 L | 0.73 L |
| CIS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U |
| DICHLORODIFLUOROMETHANE | 2.3 | 2.4 | 0.75 U |
| ETHYLBENZENE | 0.75 | 0.71 | 0.84 |
| M+P-XYLENES | 1.9 | 1.7 | 4.1 |
| METHYL TERT-BUTYL ETHER | 0.55 U | 0.55 U | 0.55 U |
| METHYLENE CHLORIDE | 0.99 K | 0.46 J | 0.53 U |
| NAPHTHALENE | 5.1 L | 2.1 L | 6.9 L |
| O-XYLENE | 0.71 | 0.62 J | 1.9 |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U |
| TOLUENE | 3.5 | 3.2 | 3.1 |
| TRANS-1,2-DICHLOROETHENE | 0.6 U | 0.6 U | 0.6 U |
| TRICHLOROETHENE | 0.22 U | 0.22 U | 0.22 U |
| VINYL CHLORIDE | 0.1 U | 0.1 U | 0.1 U |

# TABLE D-4
# MARYLAND AIR NATIONAL GUARD MUNITIONS AREA
# INDOOR AIR STATISTICS TABLE
# LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
# PAGE 1 OF 1

| Chemical | Frequency of Detection | | Mininum Non Detected | Maximum Non Detected | Mininum Detected | Maximum Detected | Sample of Maximum Detected | Mean of All Samples | Mean of Positive Detects | Standard Deviation | Variance |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | | | | | | | | | |
| **VOLATILES(UG/M3)** | | | | | | | | | | | |
| 1,2,4-TRIMETHYLBENZENE | 3/3 | 100% | - | - | 1 | 1.8 | IA3-012512 | 1.47 | 1.47 | NA(1) | NA(1) |
| 2-BUTANONE | 3/3 | 100% | - | - | 3 | 26 K | IA1-012512 | 11.1 | 11.1 | NA(1) | NA(1) |
| BENZENE | 3/3 | 100% | - | - | 1.3 | 1.3 | 012512, IA3-012512 | NA(4) | NA(4) | NA(4) | NA(4) |
| CHLOROFORM | 2/3 | 67% | 0.74 | 0.74 | 0.6 J | 0.65 J | IA1-012512 | 0.540 | 0.625 | NA(1) | NA(1) |
| CHLOROMETHANE | 2/3 | 67% | 0.31 | 0.31 | 0.73 L | 0.97 L | IA2-012512 | 0.618 | 0.850 | NA(1) | NA(1) |
| DICHLORODIFLUOROMETHANE | 2/3 | 67% | 0.75 | 0.75 | 2.3 | 2.4 | IA2-012512 | 1.69 | 2.35 | NA(1) | NA(1) |
| ETHYLBENZENE | 3/3 | 100% | - | - | 0.71 | 0.84 | IA3-012512 | 0.767 | 0.767 | NA(1) | NA(1) |
| M+P-XYLENES | 3/3 | 100% | - | - | 1.7 | 4.1 | IA3-012512 | 2.57 | 2.57 | NA(1) | NA(1) |
| METHYLENE CHLORIDE | 2/3 | 67% | 0.53 | 0.53 | 0.46 J | 0.99 K | IA1-012512 | 0.572 | 0.725 | NA(1) | NA(1) |
| NAPHTHALENE | 3/3 | 100% | - | - | 2.1 L | 6.9 L | IA3-012512 | 4.70 | 4.70 | NA(1) | NA(1) |
| O-XYLENE | 3/3 | 100% | - | - | 0.62 J | 1.9 | IA3-012512 | 1.08 | 1.08 | NA(1) | NA(1) |
| TOLUENE | 3/3 | 100% | - | - | 3.1 | 3.5 | IA1-012512 | 3.27 | 3.27 | NA(1) | NA(1) |

**Footnotes:**

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration.

1/2 the detection limit was used for B qualified data.

NA(1) - Not applicable, there are an insufficient number of samples to calculate statistics.

NA(4) - Not applicable, data contains constant observations with no distinct values, there is no need to calculate lognormal statistics.

Associated Samples

IA1-012512

IA2-012512

IA3-012512